HITACHI

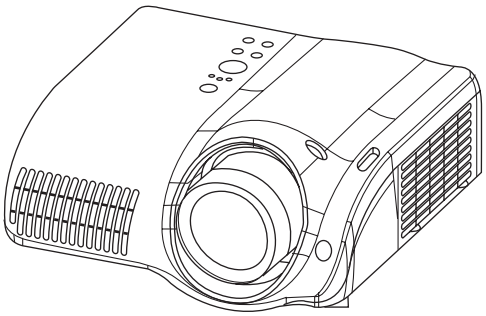
SERVICE MANUAL

SM0546

PJ-TX100W
(C11H)

⚠ Warning

The technical information and parts shown in this manual are not to be used for: the development, design, production, storage or use of nuclear, chemical, biological or missile weapons or other weapons of mass destruction; or military purposes; or purposes that endanger global safety and peace. Moreover, do not sell, give, or export these items, or grant permission for use to parties with such objectives. Forward all inquiries to Hitachi Ltd.



Caution

Be sure to read this manual before servicing. To assure safety from fire, electric shock, injury, harmful radiation and materials, various measures are provided in this Hitachi Multimedia LCD Projector. Be sure to read cautionary items described in the manual to maintain safety before servicing.

Service Warning

1. When replacing the lamp, avoid burns to your fingers as the lamp becomes very hot.
2. Never touch the lamp bulb with a finger or anything else. Never drop it or give it a shock. They may cause bursting of the bulb.
3. This projector is provided with a high voltage circuit for the lamp. Do not touch the electric parts of power unit (main), when turn on the projector.
4. Do not touch the exhaust fan during operation.
5. The LCD module assembly is likely to be damaged. If replacing to the LCD LENS/PRISM assembly, do not hold the FPC of the LCD module assembly.
6. Use the cables which are included with the projector or specified.

Contents

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

Multimedia LCD Projector

May 2004 Digital Media Division

1. Features

- Super focus ED (Extra-low dispersion) lenses are adopted for the highest possible image quality.
- 720P wide LCD panels realize faithful reproduction of high-definition images.
- Motorized iris control is provided for realizing film-like images with blacker black.
- 1.6x zoom lens and the optical lens shift allow flexible installation and viewing position.

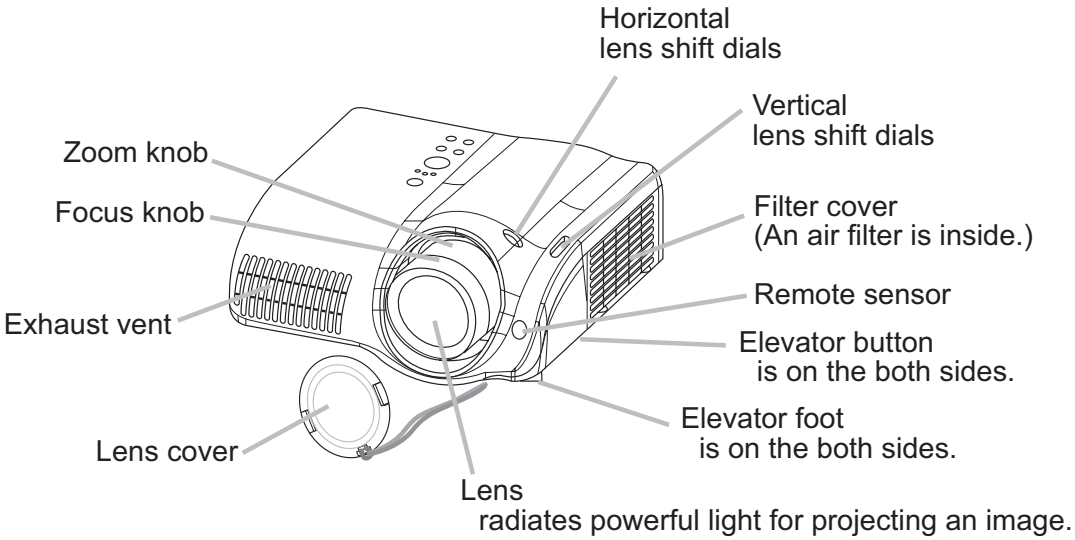
2. Specifications

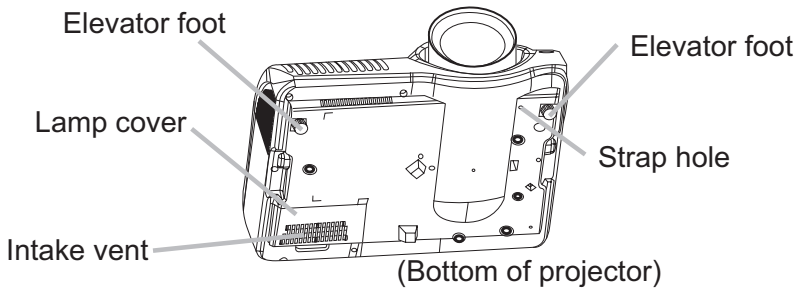
Liquid Crystal Panel	Drive system	TFT active matrix
	Panel size	1.8cm (0.7type)
	Number of pixels	1280 (H) × 720 (V)
Lamp		150W UHB
Video Input	System	NTSC,PAL(BGDHI),SECAM,PAL-M,PAL-N,NTSC4.43,PAL60
	Level	Composite 1.0±0.1Vp-p(75Ωtermination)
		S-Video Y : 1.0±0.1Vp-p(75Ωtermination) C : 0.286±0.1Vp-p(NTSC burst signal,75Ωtermination) 0.3±0.1Vp-p(PAL/SECAM burst signal,75Ωtermination)
		Component Y : 1.0±0.1Vp-p(75Ωtermination) C_B/P_B : 0.7±0.1Vp-p(75Ωtermination) C_R/P_R : 0.7±0.1Vp-p(75Ωtermination)
RGB input / output	Analog RGB	0.7V p-p (75Ωtermination)
	Sync.	TTL level
Power supply		AC100~120V / 2.4A , AC220~240V / 1.3A
Power consumption		220W
Dimensions		340(W) × 110(H) × 280(D) mm (No including protruding parts)
Weight		4.4kg(9.7lbs)
Temperature		Operation : 5~35°C Storage : -20~60°C
Accessories		Power cord PJ-TX100W x 3 (US, UK, Europe) PJ-TX100E x 2 (UK, Europe) PJ-TX100U x 1 (US) Component cable x 1 Rivet (for Lens cap) x 1 Strap (for Lens cap) x 1 Remote control transmitter x 1 Battery (for Remote control) x 2 User's manual Quick guide x 1 Safety guide x 1 Operating guide book x 2 or 3

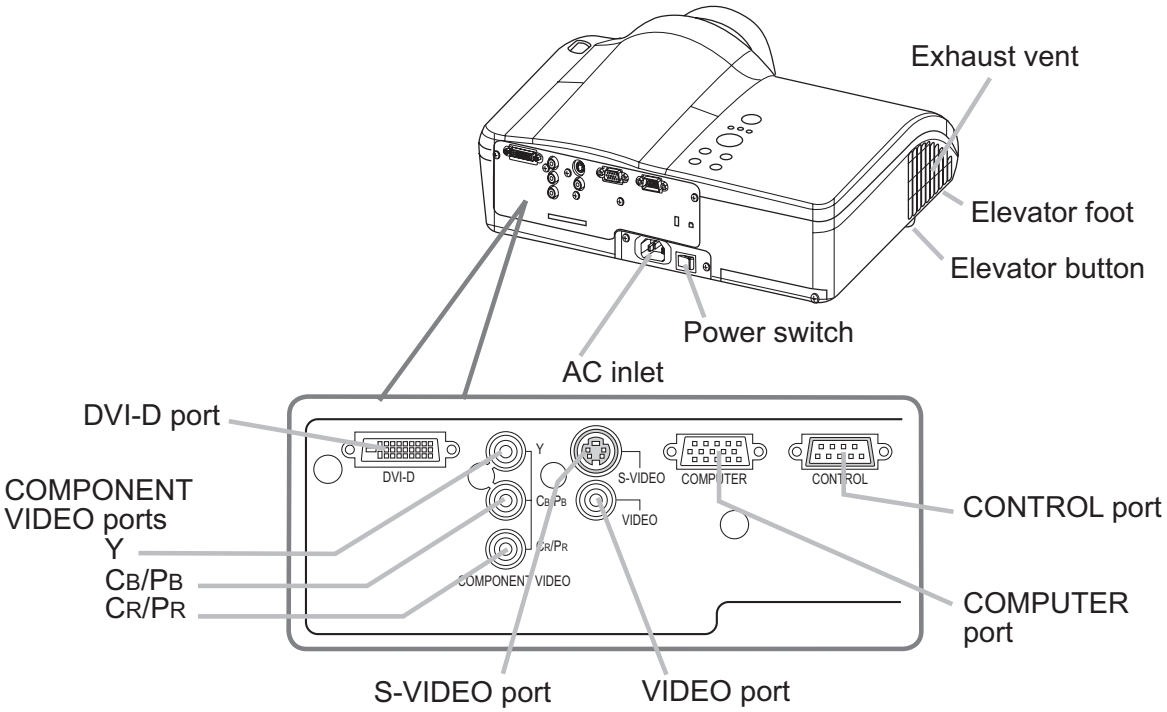
3. Names of each part

● Parts names

Projector







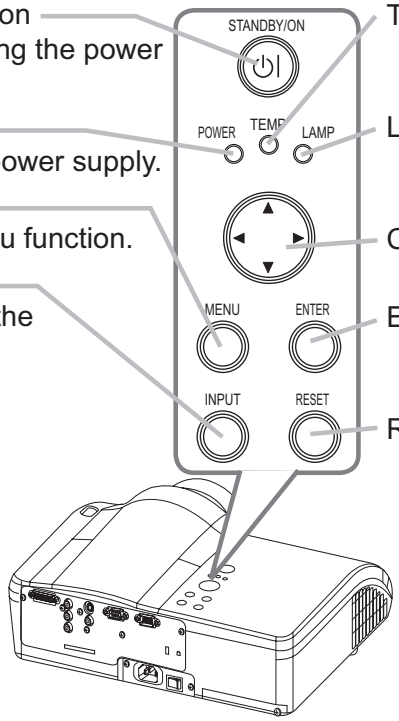
STANDBY/ON button
prepares for turning the power on/off.

POWER indicator
tells the state of power supply.

MENU button
operates the menu function.

INPUT button
toggles between the signal ports.

- COMPONENT VIDEO
- S-VIDEO
- VIDEO
- DVI-D
- COMPUTER



TEMP indicator
lights or blinks when any problem about internal temperature has happened.

LAMP indicator
light or blinks when any problem about the lamp has happened.

Cursor buttons
works for adjusting or menu controlling.

ENTER button
proceeds to the next operation at the menu functions.

RESET button
cancels the adjustment in progress.

* Note that the items whose functions are performed simultaneously with operating are nor reset.

Remote control transmitter

POWER button
prepares for turning the power on/off.
(the same as the STANDBY/ON button above.)

OPT BLK button
toggles between the modes for the optical black.

ASPECT button
toggles between the modes for the aspect ratio.

Cursor buttons
(the same as the above.)

MENU button
(the same as the above.)

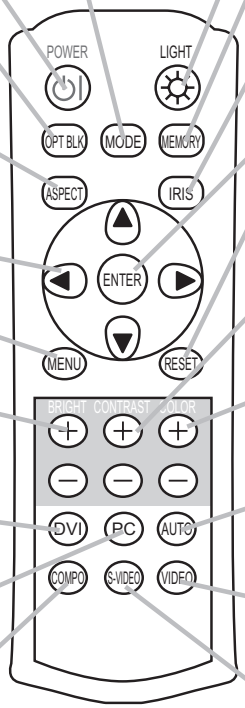
BRIGHT buttons
controls the brightness of the whole screen.

DVI button
selects the DVI-D port input.

PC button
selects the COMPUTER port input.

COMPO button
selects the COMPONENT VIDEO port input.

MODE button
toggles between the modes for the picture type.



LIGHT button
turn on/off the back light for the remote control buttons.

MEMORY button
toggles between your adjustments.

IRIS button
toggles between the modes for the iris.

ENTER button
(the same as the above.)

RESET button
(the same as the above.)

CONTRAST buttons
controls the contrast of the whole screen.

COLOR buttons
controls the color of the whole screen.

AUTO button
executes automatic adjustment.

VIDEO button
selects the VIDEO port input.

S-VIDEO button
selects the S-VIDEO port input.

4. Adjustment

4-1 Before adjusting

4-1-1 Selection of adjustment

When any parts in the table 4-1 are changed, choose the proper adjusting items with the chart.

Table 4-1: Relation between the replaced part and adjustment

Replaced part	Adjustment								
	Convergence (Chap.4-2)	E-POS (Chap.4-3)	Ghost (Chap.4-4)	Flicker (Chap.4-5)	NRSH (Chap.4-6)	White balance (Chap.4-7)	Color uniformity (Chap.4-8)	AIR SENSOR (Chap.4-9)	IRIS (Chap.4-10)
Dichroic optics unit	△	△	○	○	△	△	△	○	×
LCD/LENS prism assembly	○	○	○	○	○	○	○	△	○
PWB assembly Main	○	○	○	○	○	○	○	○	○
Lamp unit assembly	×	×	△	△	×	△	△	×	×
PWB assembly Sensor	×	×	×	×	×	×	×	○	×

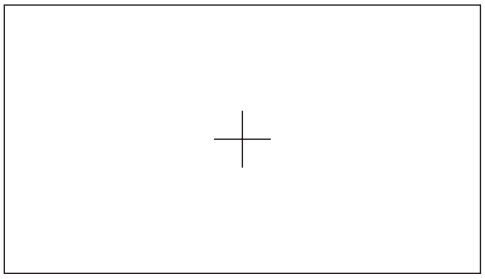
○ : means need for adjustment. × : means not need for djustment.
△ : means recommended.

4-1-2 Setting of condition before adjustment

1. Before starting adjustment, warim up projector for about 10 minutes.
2. Set Zoom Wide to Max. And project an image with more than 1m (40 inches) in diagonal size.
3. Set the lens position to the center, where you feel click, using horizontal and vertical lens shift dials.
4. Normalizing the video adjustment
   Press the [MENU] button to display the Easy menu. If Advance menu comes up, move to the Easy menu.
   Select RESET in the Easy menu and press [▶] or [ENTER] button to open the RESET menu window. Choose EXECUTE with [▲] button.
   Note that no signal input may have the projector reset its adjustments.
5. Select **PICTURE > GAMMA** in the Advanced menu to set to **DEFAULT1**.
   Note that **PICTURE** menu is not selectable with no signal input displayed.
6. Select **PICTURE > COLOR TEMP > CUSTOM** in the Advance menu, then press [▶] or [ENTER] button to display the equalizing window. Set all the values of **OFFSET** and **GAIN** in the window to zero.
   Caution: Before this performance, make a note of your customer's adjustments, because the data is overwritten.
7. Perform all adjustments from the FACTORY MENU.
   Perform the following operations to display the FACTORY MENU.
   a. Press the [MENU] button of remote control to display the Easy menu. (If the Advance menu appears, move to the Easy menu from **EASY MENU**.)
   b. Select the [RESET] in the Easy menu, and then press the [▶] or [ENTER] button.
   c. Next, press the [RESET] button one time. And hold the [RESET] button for 3 seconds or more (the FACTORY MENU will appear).

4-2 Convergence adjustment

Signal pattern for internal adjustment

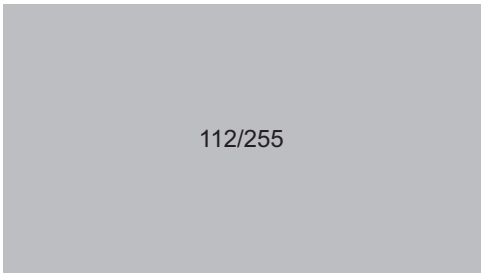


Adjustment procedure

1. Open FACTORY MENU and then select **OPTION > CNV-V**. Use **R** and/or **B** so that three colors of images can be converged at center, top and bottom of the screen.
2. In the same way, select **OPTION > CNV-H** and use **R** and/or **B** so that three colors of images can be converged at center, left and right of the screen.

4-3 E-POS adjustment(vertical bars adjustment)

Signal pattern for internal adjustment

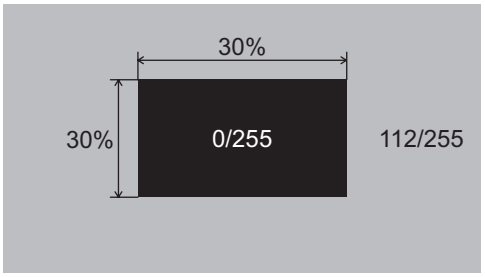


Adjustment procedure

1. Make this adjustment after completing the adjustment 4-2 Convergence adjustment.
2. Open FACTORY MENU. Select **DAC-P > E-POS > R** and use it so that vertical bars can disappear.
3. In the same way, select **DAC-P > E-POS > G** and use it so that vertical bars can disappear.
4. In the same way, select **DAC-P > E-POS > B** and use it so that vertical bars disappear.

4-4 Ghost adjustment

Signals for internal adjustment

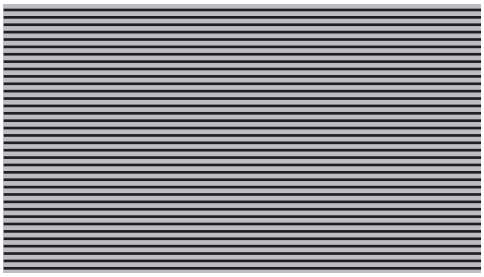


Adjustment procedure

1. Make this adjustment after completing the adjustment in 4-3.
2. Use DAC-P - GHOST - R: in the FACTORY MENU to adjust so that R color ghost is at a minimum.
   (Set the adjustment value to default, and then raise the value. When a ghost appears to the left of a vertical line, reduce the value by 4 steps.)
3. In the same way, use DAC-P - GHOST-G: in the FACTORY MENU to adjust so that G color ghost is at a minimum.
4. In the same way, use DAC-P - GHOST-B: in the FACTORY MENU to adjust so that B color ghost is at a minimum.

4-5 Flicker adjustment (V.COM adjustment)

Signals for internal adjustment

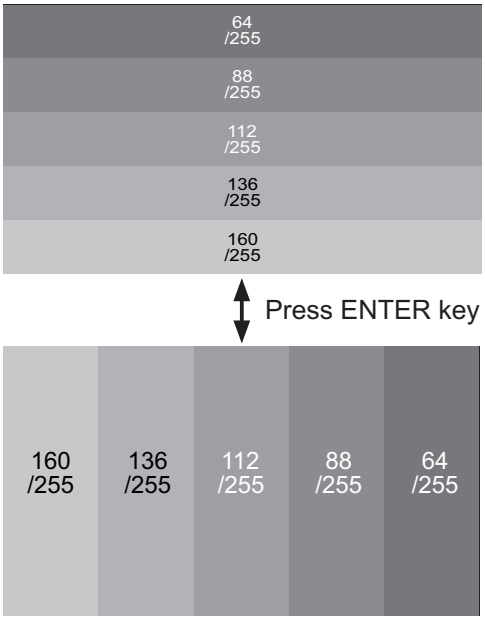


Adjustment procedure

1. Make this adjustment after completing the adjustment in 4-4 Ghost adjustment.
2. Use DAC-P - V.COM - R: in the FACTORY MENU to adjust so that the flicker at the center of the screen is less than the flicker at the periphery. (When the flicker is about the same across the whole screen, adjust so that the flicker at the center of the screen is somewhat less than elsewhere.)
3. In the same way, use DAC-P - V.COM-G: in the FACTORY MENU to adjust the G color flicker.
4. In the same way, use DAC-P - V.COM-B: in the FACTORY MENU to adjust the B color flicker.

4-6 NRSH adjustment (vertical stripe adjustment)

Signals for internal adjustment



Adjustment procedure

1. Make this adjustment after completing the adjustment in 4-5 Flicker adjustment.
2. Use DAC-P - NRSH - R: in the FACTORY MENU to adjust so that the vertical lines spaced every 6 dots are as inconspicuous as possible. (Reduce the adjustment value when black stripes appear in the 2nd or 3rd tone from the black side. Note that when the adjustment value is lowered, white stripes may appear in the 2nd or 3rd tone from the bright side. Should this happen, adjust so that the stripes are as inconspicuous as possible.)
3. In the same way, use DAC-P - NRSH - G: in the FACTORY MENU to adjust vertical stripes of G color.
4. In the same way, use DAC-P - NRSH - B: in the Adjustment menu to adjust vertical stripes of B color.

4-7 White balance adjustment (visual inspection)

Preparations

1. Perform these adjustments after the NRSH adjustment described in Section 4-6.
2. Reset gamma correction before adjustment.
   - Place the cursor on [GAMMA] in the FACTORY MENU, press the [RESET] key and select [DEFAULT].

Adjustment procedure

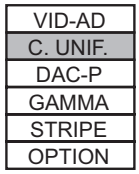
1. First, adjust the G color.
2. Select GAMMA, SUB-CNT, and G: in the FACTORY MENU. If the background is white solid, press the [ENTER] key on the Remote control transmitter to change to [G] monochrome in the 33-tone grayscale.
3. Adjust GAMMA, SUB-CNT, and G: in the FACTORY MENU so that brightness of 33 steps is best.
4. Don't adjust GAMMA, SUB-BRT, and G: in the FACTORY MENU. Because we want to keep the best contrast ratio.
5. Then adjust colors R and B.
6. Select GAMMA, SUB-CNT, and G: in the FACTORY MENU. If the background is white solid, press the [ENTER] key on the Remote control trasmitter to change to [W] monochrome in the 33-tone grayscale.
7. Adjust GAMMA, SUB-BRT, R: and B: in the FACTORY MENU so that low-brigtness white balance is best.
8. Adjust GAMMA, SUB-CNT, R: and B: in the FACTORY MENU so that middle-brightness white balance is best.
9. Repeat steps 7 to 8 above, and adjust so that brightness white balance of 33 steps is best.

4-8 Color uniformity adjustment

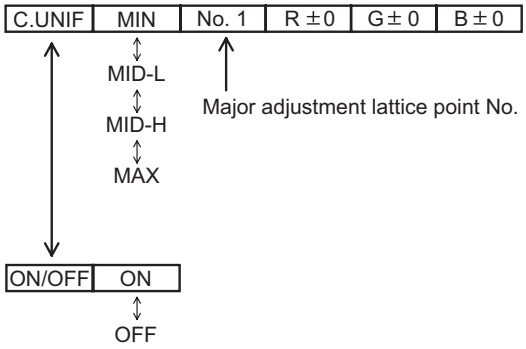
Preparations

1. Perform these adjustments after the white balance adjustment described in Section 4-7.
2. Make a color uniformity adjustment for the following four tones.
   - MIN tone (approx. 7% input signal)
   - MID-L tone (approx. 21% input signal)
   - MID-H tone (approx. 50% input signal)
   - MAX tone (approx. 75% input signal)
3. Place the cursor on [C.UNIF.] in the FACTORY MENU and press the [▶] key. This displays the Adjust Tone menu at the bottom of the screen. To choose the tone to be adjusted, press the [▶] key and then use the [▲] or [▼] key. Select the major adjustment lattice point No. and color, and then adjust them.
4. The major adjustment lattice point numbers (a total of 17 points) corresponds to the major adjustment lattice point positions in the diagram on the right. The color uniformity of the entire screen can be adjusted by adjusting the white balance for each of the points starting in order from the low numbers.
5. Adjustment point No.1 should not be adjusted, because it controls the brightness of the entire screen.
6. To temporarily turn correction off, place the cursor on [C.UNIF.] in the Adjust Tone menu and press the [▼] key. The ON/OFF menu appears. Place the cursor on [ON] with the [▶] key and press the [▼] key. To turn it on again, place the cursor on [OFF] and press the [▲] key.
7. Although this adjustment can also be made using internal signals, we will here use the [ENTER] key on the Remote control transmitter to select the following two signals.
   - Solid monochrome adjustment color (use G color adjustment when a color differential meter is used).
   - Solid white (use for adjustment other than above).
8. Reset color-shading correction before adjustment.
   - When 4 tones and all colors are to be reset, place the cursor on [C.UNIF.] in the FACTORY MENU, press the [RESET] key and select [DEFAULT].
   - When only 1 tone is to be reset, place the cursor on the tone to be reset, press the [RESET] key and select [DEFAULT].
   - Single tone and monochrome resets cannot be performed.

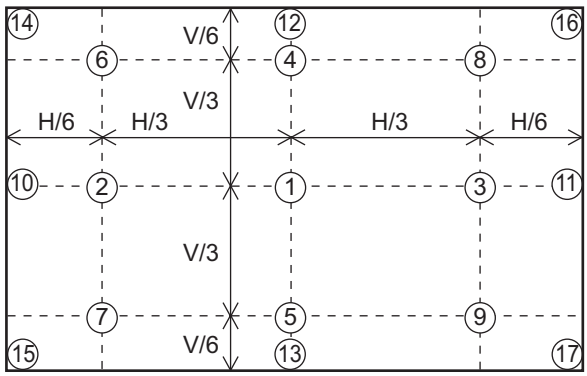
FACTORY MENU



Adjust tone menu



Major adjustment lattice point position



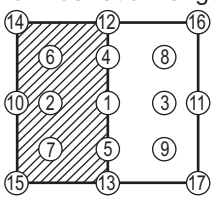
Adjustment procedure 1
(When a color differential meter is used)

1. First adjust [MID-L] tone [G:].
2. Select adjustment point [No.2][G:].
   When the background is not [G] monochrome, press the [ENTER] key on the Remote control transmitter to change to solid [G] monochrome.
3. Measure the illumination at adjustment points No. 2, No.3, No.10 and No.11.
   The values should be:
   No.2 = Y2 [lx] No.10 = Y10 [lx]
   No.3 = Y3 [lx] No.11 = Y11 [lx]
4. No.2 and No.3 adjustment point have the average of Y2 and Y3.
   Y2 = (Y2 + Y3) / 2 ± 2 [%]
   Y3 = (Y2 + Y3) / 2 ± 2 [%]
5. No.10 and No.11 adjustment point have the average of Y10 and Y11.
   Y10 = (Y10 + Y11) / 2 ± 2 [%]
   Y11 = (Y10 + Y11) / 2 ± 2 [%]
6. Then adjust [MID-L] tone [R] and [B].
   When the background is [G] monochrome, press the [ENTER] key on the Remote control transmitter to change to solid white.
7. Measure the color coordinates of adjustment point [No.1] and make a note of them.
   Assume that they are x = x1, y = y1.
   Note: When the CL-100 color and color difference meter is used, the [Δ](delta) mode is convenient. When adjustment point [No.1] color coordinate has been selected, set the slide switch on the side to [Δ](delta) while holding down the [F] button on the front panel. The measurement shown after this displays the deviation from measurement point 1.
8. Measure the color coordinates of measurement point [No.2] and adjust [No.2][R:] and [B:] so that the coordinates are as follows.
   x = x1 ± 0.005 , y = y1 ± 0.010
9. Similarly, measure adjustment points [No.3] to [No.17] and adjust their color coordinates starting in order from the small number points.
   This completes adjustments required for [MIN].
   Note: Since excessive correction may lead to a correction data overview during internal calculations, use the following values for reference.
   [No.2] to [No.5] ± 40 or less
   [No.6] to [No.9] ± 50 or less
   [No.10] to [No.13] ± 70 or less
   [No.14] to [No.17] ± 120 or less
10. Then adjust [MIN] tone [G] so that the adjustment data set two times as much as [MID-L] tone [G].
    This completes [G] color adjustments.
11. Then adjust [MIN] tone [R] and [B].
    Select [No.2] [B:] and press the [ENTER] key on the Remote control transmitter to change to solid white.
12. Measure the color coordinates of adjustment point [No.1] and make a note of them.
    Assume that they are x = x1, y = y1.
13. Now measure the color coordinates of measurement point [No.2] and adjust [No.2][R:] and [B:] so that the coordinates are as follows.
    x = x1 ± 0.005 , y = y1 ± 0.010 (Target)
    x = x1 ± 0.020 , y = y1 ± 0.040
14. Similarly, measure adjustment points [No.3] to [No.17] and adjust their color coordinates starting in order from the small number points.
    This completes [MIN] tone adjustments.
15. Now make similar adjustments for [MID-H] tone.
    (Adjust [MID-H] tone [G] so that the adjustment data set half as many as [MID-L] tone [G].)
16. Now make similar adjustments for [MAX] tone.
    (Adjust [MAX] tone [G] so that the adjustment data set half as many as [MID-L] tone [G].)

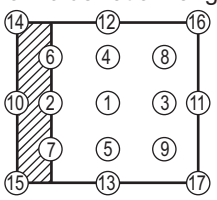
Adjustment procedure 2
(visual inspection)

1. First adjust [MIN] tone [G:].
2. Select [No.2] [G:].
   If the background is [G] monochrome, press the [ENTER] key on the Remote control transmitter to change to solid white.
3. View measurement point [No.2] and [No.3].
   Lower the [G] color intensity only of the color point whose [G] color is more intense than measurement point [No.1].
4. View measurement point [No.10] and [No.11].
   Lower the [G] color intensity only of the color point whose [G] color is more intense than measurement point [No.1], and raise the intensity of the point whose color intensity is lower than measurement point [No.1].
5. Now adjust the [MIN] tone for colors [R] and [B].
6. View measurement points [No.2], [No.3], [No.10] and [No.11]. Adjust the [R] and [B] of each measurement point so that they have the same color as measurement point [No.1].
   Adjustment technique:
   First, adjust [B:] of the point whose color is to be adjusted so that it approximates that of [No.1]. If [R:] is low at this time, the image will have cyan cast, in which case [R:] is increased. On the other hand, if [R:] is excessive, the image will have a magenta cast, in which case [R:] is decreased.
   Overall, a cyan cast makes it easy to see color shading.
7. Next, view measurement points [No.4], [No.5], [No.12], [No.13] and make similar adjustments.
8. Then adjust measurement points [No.6], [No.7], [No.8], [No.9], [No.14], [No.15], [No.16] and [No.17]. This completes the [MIN] tone adjustments.
9. Make similar another three tones as described in steps 1 to 8 above.

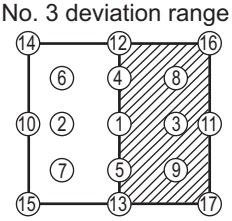
No. 2 deviation range



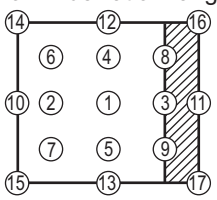
No. 10 deviation range



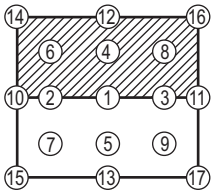
No. 3 deviation range



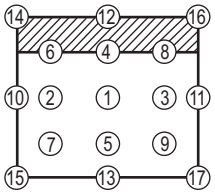
No. 11 deviation range



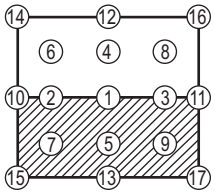
No. 4 deviation range



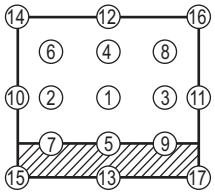
No. 12 deviation range



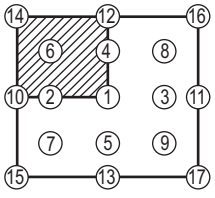
No. 5 deviation range



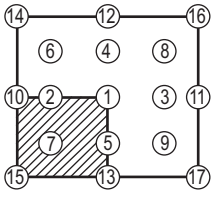
No. 13 deviation range



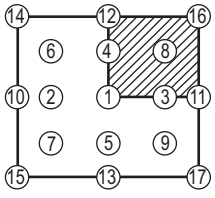
No. 6 deviation range



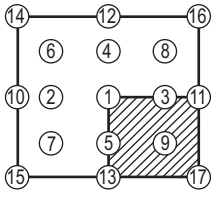
No. 7 deviation range



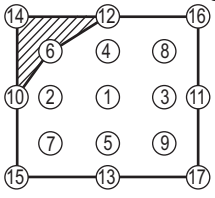
No. 8 deviation range



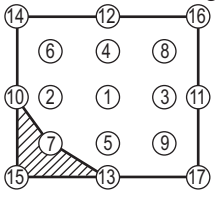
No. 9 deviation range



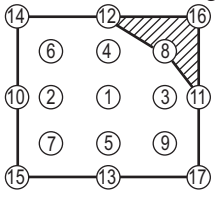
No. 14 deviation range



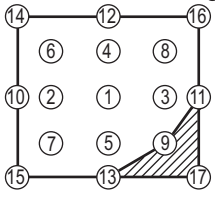
No. 15 deviation range



No. 16 deviation range



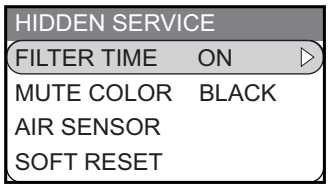
No. 17 deviation range



4-9 AIR-SENSOR adjustment

When the PWB assembly MAIN or the PWB assembly SENSOR is replaced, perform this adjustment after completing reassembling the projector.

1. Open HIDDEN SERVICE MENU and choose AIR-SENSOR by using ▼ button.
   Service menu comes up by following operation.



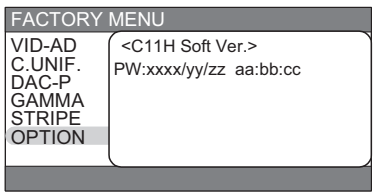
By the control panel	By the remote control transmitter
1. Display the Advanced menu by the “MENU” button. 2. Select the “OPTION” on the menu. 3. Continue press the button “◀” first, then press the button “◀” together with “INPUT”, and hold for 3 seconds.	1. Display the Advance menu by the “MENU” button. (If EASY MENU appears, choose “Go to Advance menu” to display ADVANCE MENU.) 2. Select the “OPTION” on the menu. 3. Press the “LIGHT” button. Next hold the “LIGHT” button for 3 seconds.

2. Press the ▶ button. Next press the [▲] button to select EXECUTE. The adjustment program runs automatically.
3. After the massage of "END" is displayed, check the Offset value displayed according to the following spec
   Spec. : 5 ≦ Offset: ≦ 65
4. If out of spec, confirm the below conditions Then retry the same adjustment.

	Description
(a)	Installing the air filter correctly.
(b)	No obstruction and dust on air filter. (If not good condition, clean or replace the air filter.)
(c)	Using the proper type of air filter.
(d)	Installing the PWB assembly SENSOR correctly.
(e)	Connecting the proper wires to E7A1 and E981 firmly.
(f)	The component I7A2 on the PWB assembly MAIN stands vertically
(g)	The component D981 on the PWB assembly SENSOR stands vertically

5. If the all conditions above is okay, replace the PWB assembly Main.

4-10 IRIS adjustment



Select “OPTION” in the FACTORY MENU, and press the [▶] button to display the IRIS-A menu. Then press the [▶] button to start the automatic adjustment.

IRIS-A	>>EXE		O: 51	C: 172

IRIS-A	>>EXE	OK	O: 51	C: 172

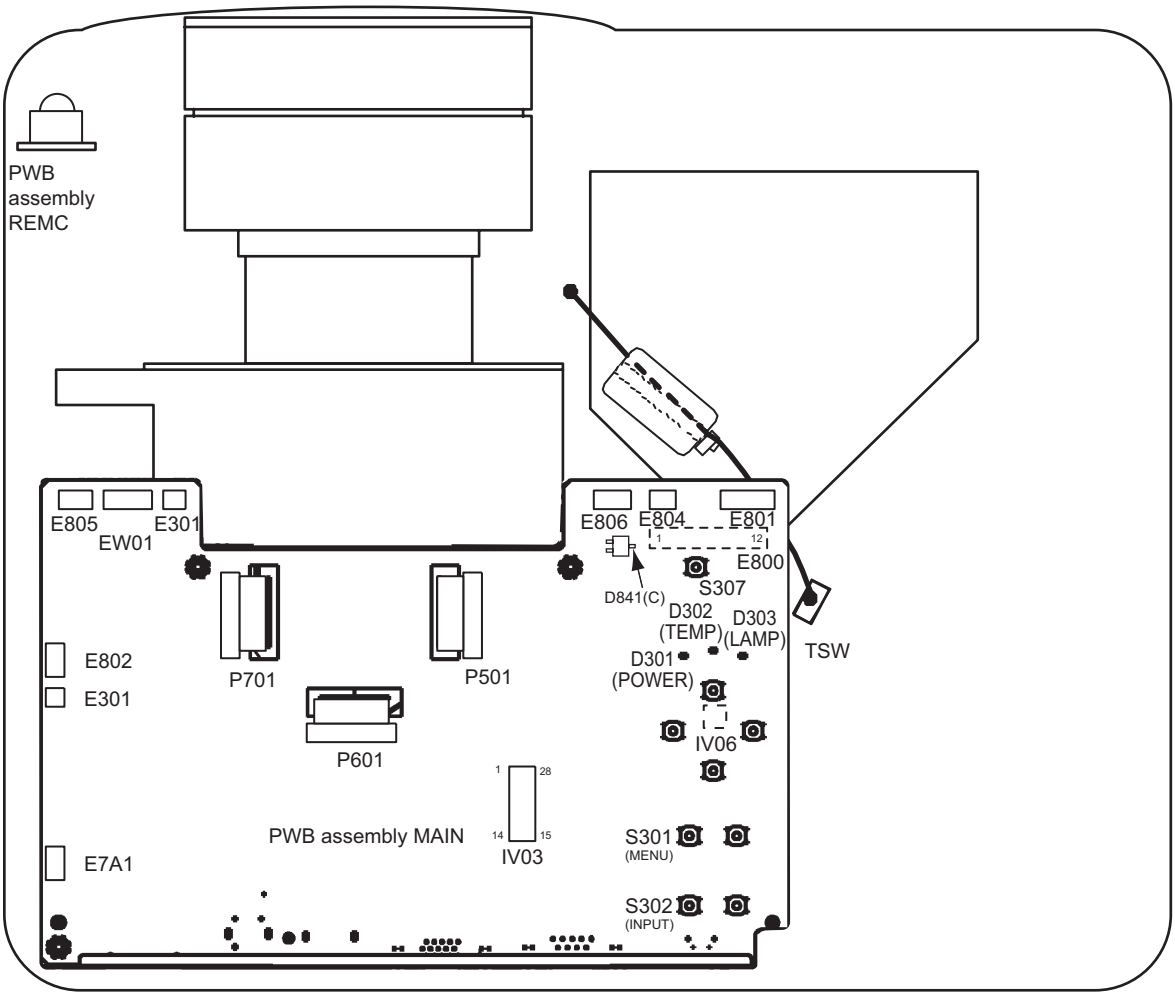
IRIS-A	>>EXE	NG	O: 255	C: 255

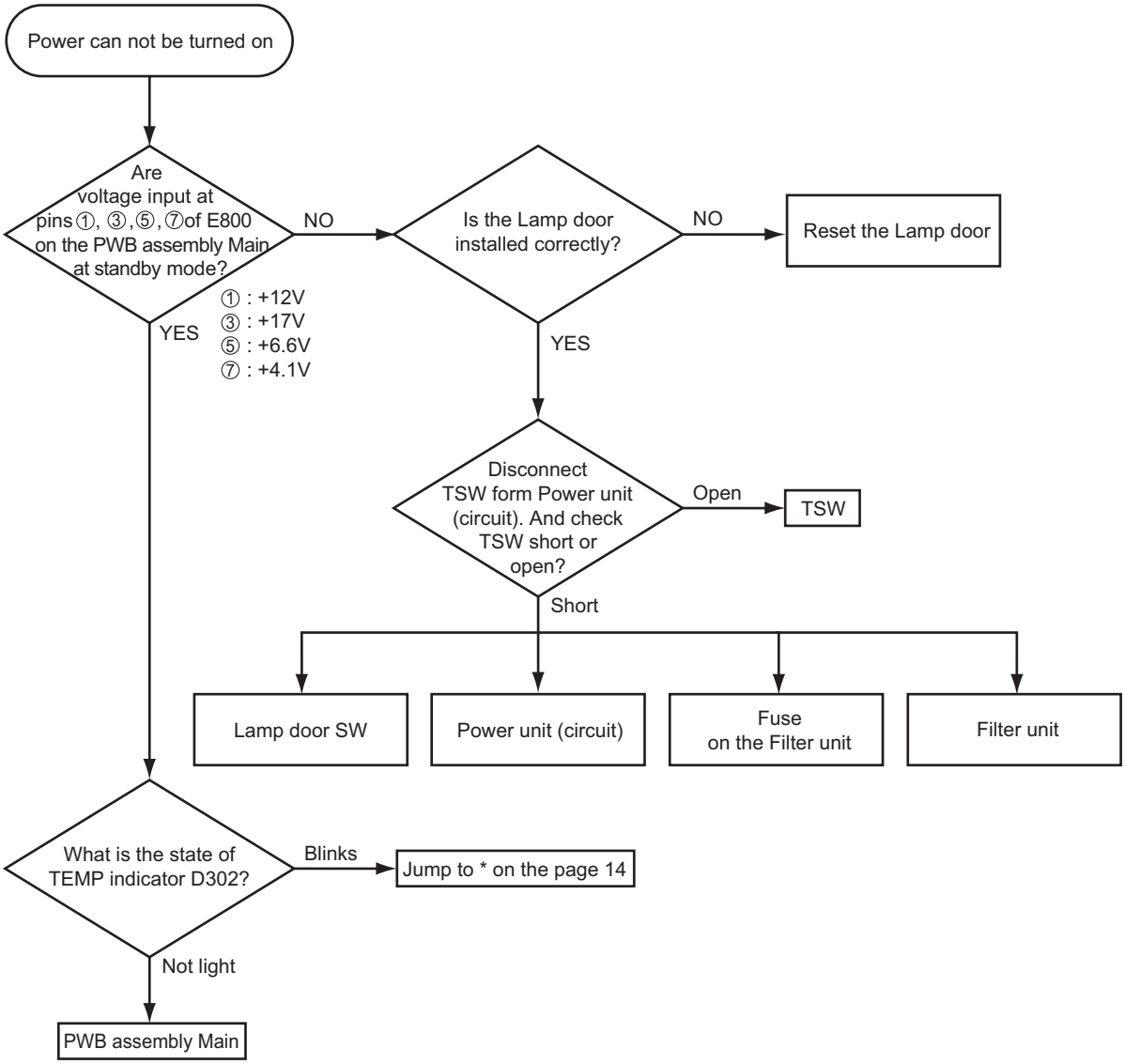
This adjustment takes about 5 seconds. The image becomes dark and bright while this period. When the adjustment completes, the cursor moves to “OK”.

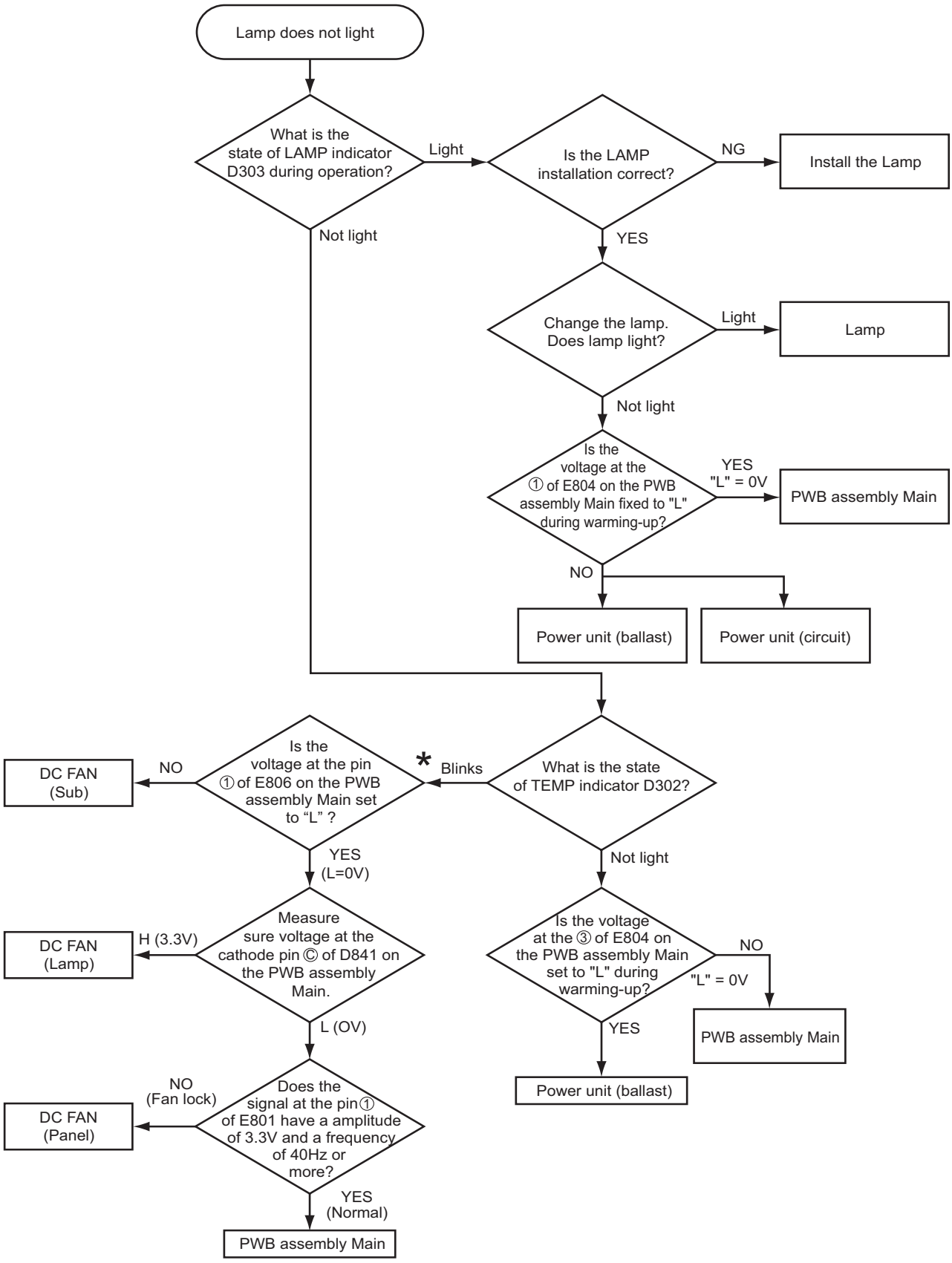
Note that the cursor moves to “NG” when adjustment fails. Then make sure connection of EW01 to MAIN board.

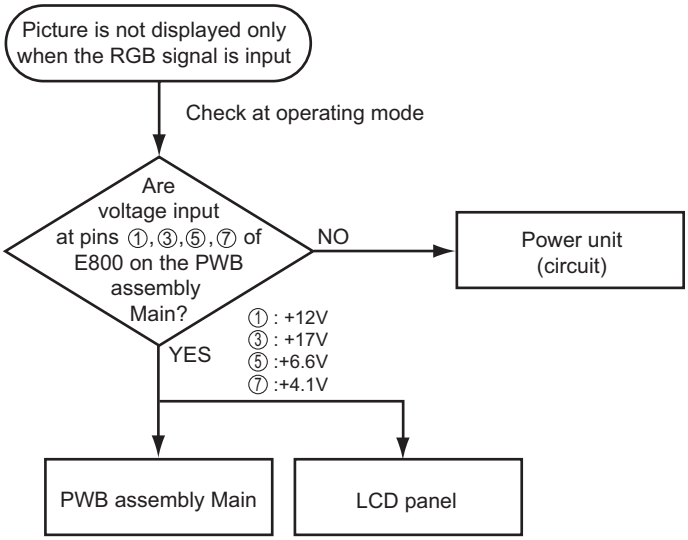
5. Troubleshooting

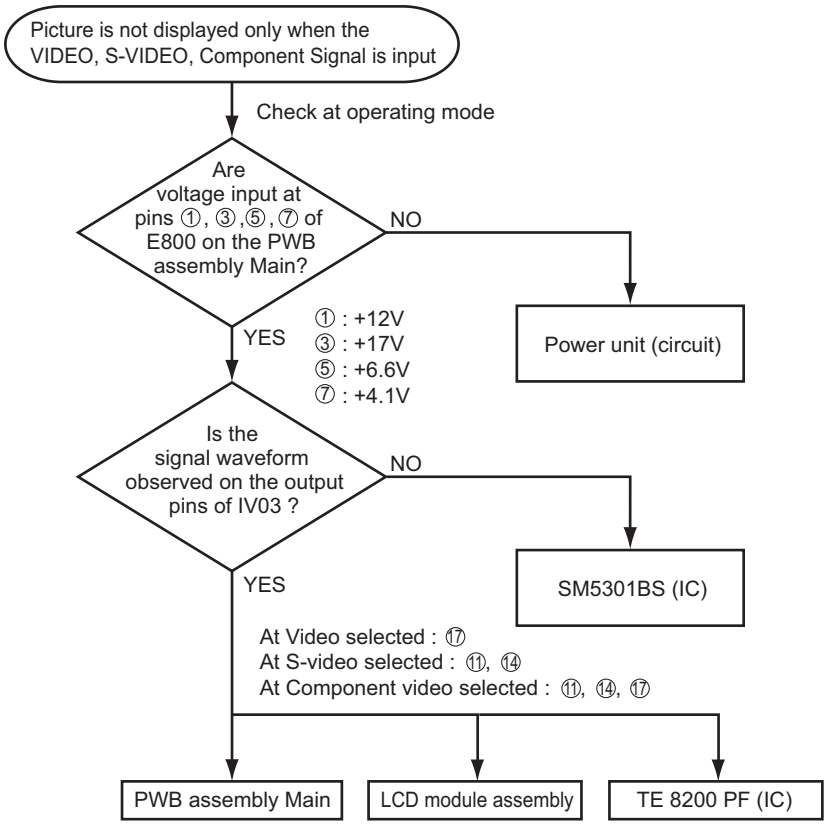
Check points

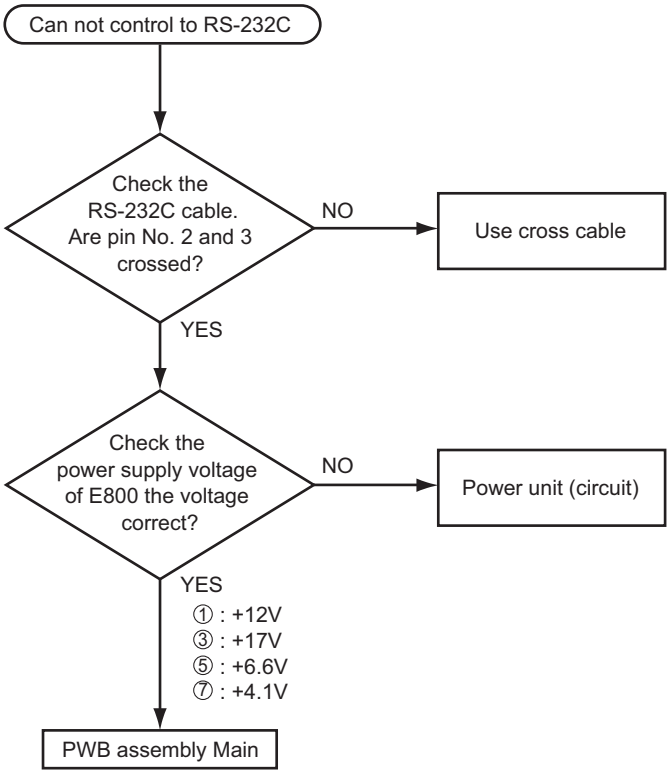



Power can not be turned on
Are voltage input at pins ①, ③, ⑤, ⑦ of E800 on the PWB assembly Main at standby mode?
NO
Is the Lamp door installed correctly?
NO
Reset the Lamp door
① : +12V
③ : +17V
⑤ : +6.6V
⑦ : +4.1V
YES
YES
Disconnect TSW form Power unit (circuit). And check TSW short or open?
Open
TSW
Short
Lamp door SW
Power unit (circuit)
Fuse on the Filter unit
Filter unit
What is the state of TEMP indicator D302?
Blinks
Jump to * on the page 14
Not light
PWB assembly Main


Lamp does not light
What is the state of LAMP indicator D303 during operation?
Light
Is the LAMP installation correct?
NG
Install the Lamp
Not light
YES
Change the lamp. Does lamp light?
Light
Lamp
Not light
Is the voltage at the ① of E804 on the PWB assembly Main fixed to "L" during warming-up?
YES "L" = 0V
PWB assembly Main
NO
Power unit (ballast)
Power unit (circuit)
What is the state of TEMP indicator D302?
*
Blinks
Is the voltage at the pin ① of E806 on the PWB assembly Main set to “L” ?
NO
DC FAN (Sub)
YES (L=0V)
Measure sure voltage at the cathode pin © of D841 on the PWB assembly Main.
H (3.3V)
DC FAN (Lamp)
L (OV)
Does the signal at the pin① of E801 have a amplitude of 3.3V and a frequency of 40Hz or more?
NO (Fan lock)
DC FAN (Panel)
YES (Normal)
PWB assembly Main
Not light
Is the voltage at the ③ of E804 on the PWB assembly Main set to "L" during warming-up?
NO
"L" = 0V
PWB assembly Main
YES
Power unit (ballast)


Picture is not displayed only when the RGB signal is input
Check at operating mode
Are voltage input at pins ①,③,⑤,⑦ of E800 on the PWB assembly Main?
NO
Power unit (circuit)
YES
① : +12V
③ : +17V
⑤ :+6.6V
⑦ :+4.1V
PWB assembly Main
LCD panel


Picture is not displayed only when the VIDEO, S-VIDEO, Component Signal is input
Check at operating mode
Are voltage input at pins ①, ③,⑤, ⑦ of E800 on the PWB assembly Main?
NO
Power unit (circuit)
YES
① : +12V
③ : +17V
⑤ : +6.6V
⑦ : +4.1V
Is the signal waveform observed on the output pins of IV03 ?
NO
SM5301BS (IC)
YES
At Video selected : ⑰
At S-video selected : ⑪, ⑭
At Component video selected : ⑪, ⑭, ⑰
PWB assembly Main
LCD module assembly
TE 8200 PF (IC)



The check after parts change

1. PC power supply OFF
2. Connection of cable
3. Projector starting
4. PC starting
   *When not operating :
   PC set up change of cable.

6. Service points

6-1 Lead free solder [CAUTION]

This product uses lead free solder (unleaded) to help preserve the environment. Please read these instructions before attempting any soldering work.

⚠ CAUTION
Always wear safety glasses to prevent fumes or molten solder from getting into the eyes. Lead free solder can splatter at high temperatures (600˚C).

■ Lead free solder indicator

Printed circuit boards using lead free solder are engraved with an "F" or "LF".

■ Properties of lead free solder

The melting point of lead free solder is 40-50˚C higher than leaded solder.

■ Servicing solder

Solder with an alloy composition of Sn-3.0Ag-0.5Cu or Sn-0.7Cu is recommended.

Although servicing with leaded solder is possible, there are a few precautions that have to be taken. (Not taking these precautions may cause the solder to not harden properly, and lead to consequent malfunctions.)

Precautions when using leaded solder

- Remove all lead free solder from soldered joints when replacing components.
- If leaded solder should be added to existing lead free joints, mix in the leaded solder thoroughly after the lead free solder has been completely melted (do not apply the soldering iron without solder).

■ Servicing soldering iron

A soldering iron with a temperature setting capability (temperature control function) is recommended.

The melting point of lead free solder is higher than leaded solder. Use a soldering iron that maintains a high stable temperature (large heat capacity), and that allows temperature adjustment according to the part being serviced, to avoid poor servicing performance.

Recommended soldering iron:

- Soldering iron with temperature control function (temperature range: 320-450˚C)

Recommended temperature range per part:

Part	Soldering iron temperature
Mounting (chips) on mounted PCB	320˚C±30˚C
Mounting (chips) on empty PCB	380˚C±30˚C
Chassis, metallic shield, etc.	420˚C±30˚C

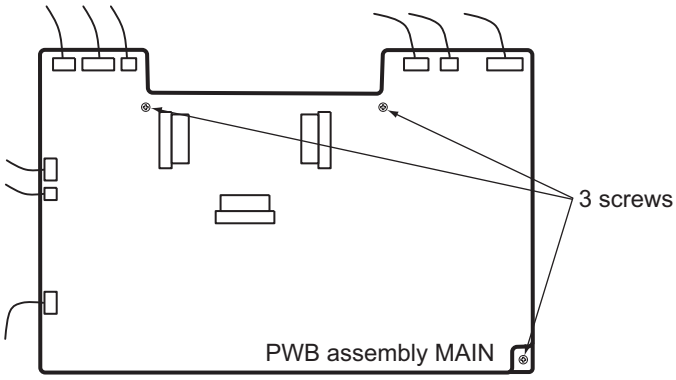
The PWB assembly which has used lead free solder

① PWB assembly MAIN
② PWB assembly SENSOR
③ PWB assembly REMC
④ POWER UNIT (BALLAST)
⑤ POWER UNIT (CIRCUIT)
⑥ FILTER UNIT

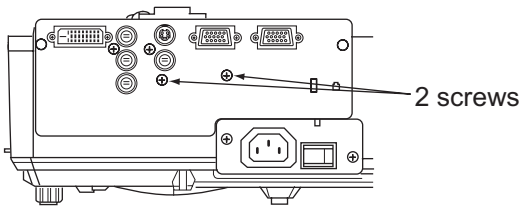
6-2 Cautions when removing the PWB assembly MAIN

When removing the PWB assembly MAIN, there is danger of damaging the connector connecting cables.

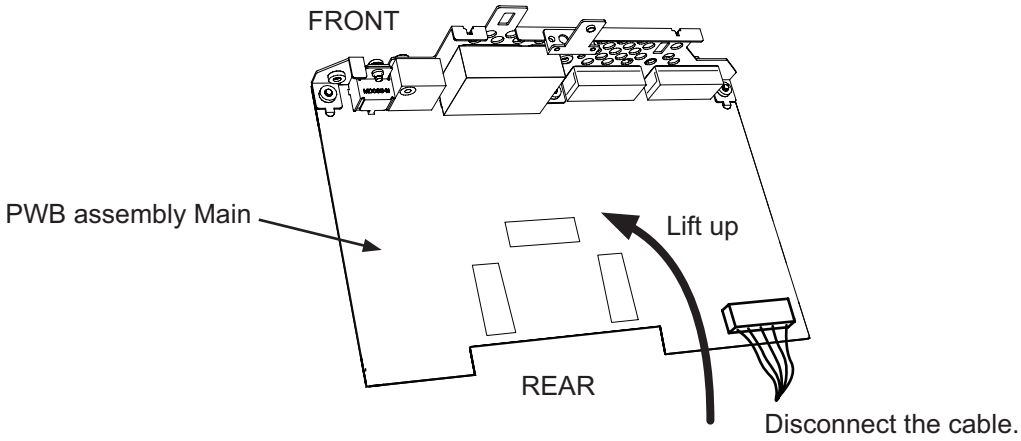
1) Disconnect 12 cables and remove 3 screws.



2) Remove 2 screws.

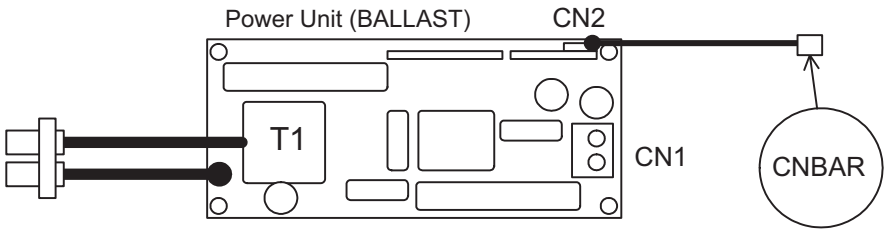


3) Lift up the rearward of the PWB assembly MAIN to the front, while pushing rear portion of bottom case toward the outside so that the terminals of MAIN board may not be caught in bottom case. And then disconnect cable.



6-3 Cautions When Removing The Power Unit (BALLAST)

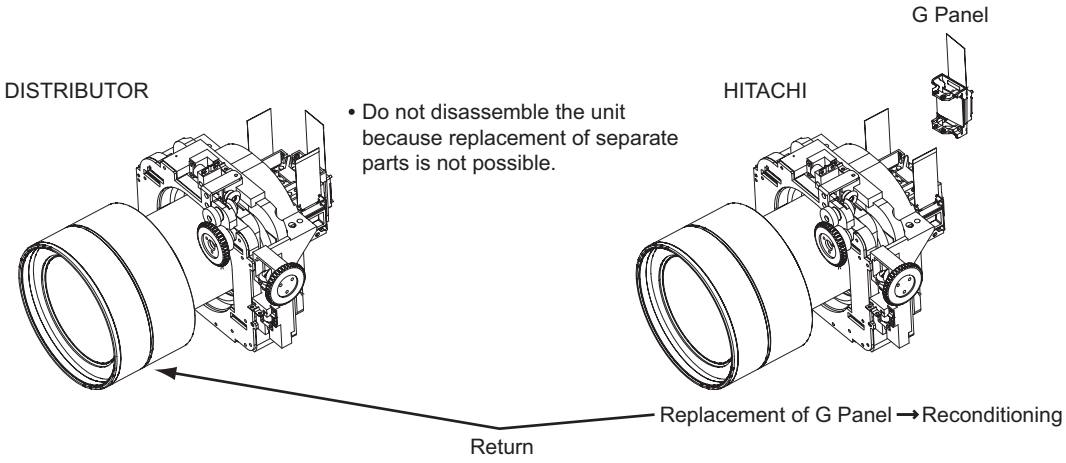
When removing the cable (CNBAR) connected to Power Unit (BALLAST), there is danger of damaging the small PWB connecting cables.



Disconnect the CNBAR from connector CN2,
while pressing the sub-board
(to prevent the stress on the sub-board).

6-4 Before Replacing The LCD/Lens Prism

You should not replace separately the parts of the liquid crystal LCD/Lens prism because it works properly only when used together. Therefore, regarding these parts, you can either replace part, LCD/Lens prism assembly, or send the whole unit LCD/Lens prism assembly back to HITACHI, where we will replace the malfunctioning part, recondition the device and send it back to you.



6-5 Cleaning up dust from panels and optical filters

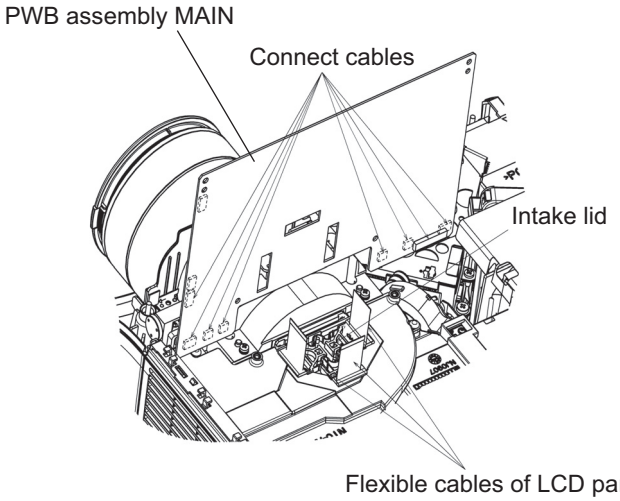
1. Preparation

Please prepare cleaning tools and materials as follows. And prepare relatively clean room not to work in additional dust, while removing operation.

(1) Swab for cleaning • • • • • • P#: NX08061, "Cotton stick L147"
(2) Air duster (Dust blower, spray can)
(3) Vacuum cleaner

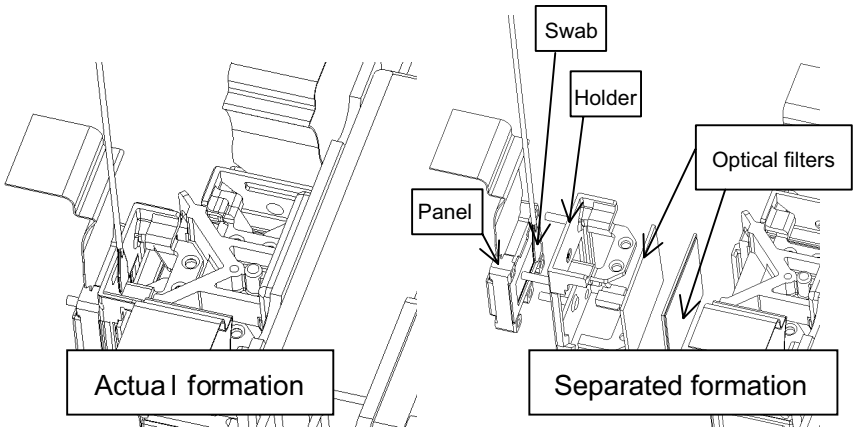
2. Disassemble and open the maintenance hole.

(1) Turn off the projector, and unplug the power cord.
(2) Remove the top cover, according to the disassembling diagram of chapter 8.
(3) Remove the PWB assembly MAIN, according to the Chapter6-2.
(4) Remove the Intake LID.



(5) Re-assemble the PWB assembly MAIN, and re-connect toward projection lens.
Then place the board vertically shown above so that LCD panels can be seen.
Note that connectors for LCD panels should be empty.

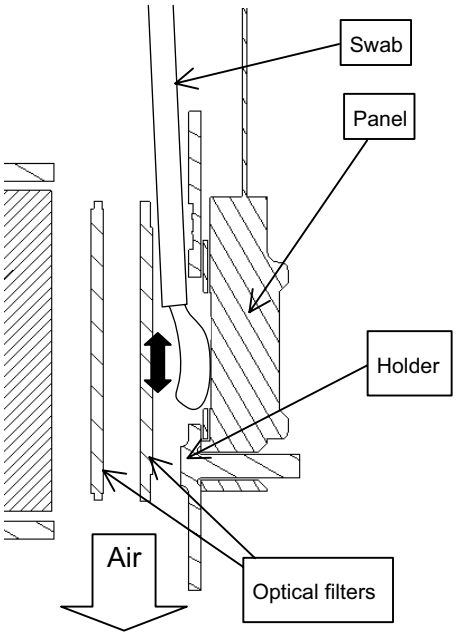
3. Maintenance point



Each color part has same construction.
By using swab and air duster, you can easily remove dust from panel and optical filters.

4. Cleaning the panels and optical filters

(1) Turn on the set and lit on the lamp.
(2) Set blank screen to white.
(3) By using swab and air duster, remove the dust. Focusing dust makes you check the dust on screen.
(4) If cleaning up dust is hard, clean them again after powering off, disconnecting power cord and removing Intake upper.



- While removing the dust, separated dust will be blown off by air cooling system.
- Please pay attention not to damage panel and filters.

5. Re-assembly

(1) Turn off the set and remove the PWB assembly MAIN.
(2) Set the intake LID.
(3) Re-assemble the PWB assembly MAIN.
(4) Re-assemble the set.
(5) While re-assembling, please clean the intake LID and intake filter and filter cover by using vacuum cleaner.

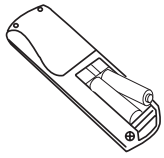
6-6 Putting batteries

⚠ CAUTION

- Always handle the batteries with care and use them only as directed. Improper use may result in battery explosion, cracking or leakage, which could result in fire, injury and/or pollution of the surrounding environment.
- Be sure to use only the batteries specified. Do not use batteries of different types at the same time. Do not mix a new battery with used one.
- Make sure the plus and minus terminals are correctly aligned when loading a battery.
- Keep a battery away from children and pets.
- Do not recharge, short circuit, solder or disassemble a battery.
- Do not allow a battery in a fire or water. Keep batteries in a dark, cool and dry place.
- If you observe a leakage of a battery, wipe out the flower and then replace a battery. If the flower adheres your body or clothes, rinse well with water immediately.

1. Remove the battery cover.
   Slide back and remove the battery cover in the direction of the arrow.

2. Insert the batteries.
   Align and insert the two AAA batteries according to their plus and minus terminals as indicated in the remote control.



3. Close the battery cover.
   Replace the battery cover in the direction of the arrow and snap it back into place.

6-7 Air filter

⚠ WARNING

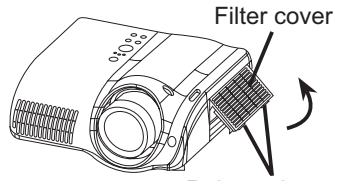
- Before replacing the lamp, make sure the power switch is off and the power cord is not plugged in, then wait at least 45 minutes for the lamp to cool suffi ciently.
- Use only the air filter of the specified type. Do not use the projector with the air filter and filter cover removed.

⚠ CAUTION

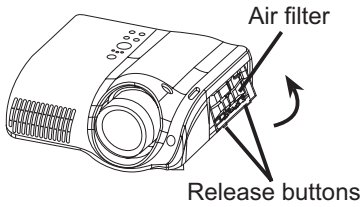
- If the air filter becomes clogged by dust or the like, internal tempereture rises and the power may be automatically turned off for malfunction prevention.

If the indicators or a message prompts you to clean the air filter, clean the air filter as soon as possible. Please replace the air filter when you replace the lamp, and also when it is damaged or too soiled.

1. Turn off the projector, and unplug the power cord. Allow the lamp bulb to cool for at least 45 minutes.
2. After making sure that the projector has cooled adequately, remove the filter cover and the air filter. Hold its release buttons while pulling up it.



3. Apply a vacuum cleaner to the filter cover and the air filter.
   To replace the air filter,
   Contact your dealer to prepare a new air filter.
   Tell the dealer your air filter type number:
   NJ09452.



4. Insert the cleaned air filter or a new air filter, and replace the filter cover.
5. Turn on the projector power, and reset the filter timer.
   (1) While the projector running, press the MENU button to open the menu.
   (2) Choose the “OPTION” on the menu using the ▲/▼ button, then press the ► button or ENTER button.
   (3) Choose the “FILTER TIME” using the ▲/▼ button, then press and hold the RESET button for 3 seconds.
   (4) Choose the “RESET” using the ▲ button.

NOTE • Incorrectly resetting of the filter timer (resetting without replacement, or neglect of resetting after replacement) will result in incorrect message functions.

6-8 Lamp

⚠ WARNING

The projector uses a high-pressure mercury glass lamp. The lamp can **break with a loud bang, or burn out**, if jolted or scratched, handled while hot, or worn over time.
Note that each lamp has a different lifetime, and some may burst or burn out soon after you start using them. In addition, when the bulb bursts, it is possible for **shards of glass** to fly into the lamp housing, and for **gas containing mercury** to escape from the projector's vent holes.

About disposal of a lamp • This product contains a mercury lamp; do not put in trash. Dispose of in accord with environmental laws.
For lamp recycling, go to www.lamprecycle.org. (in the US)
For product disposal, contact your local government agency or www.eiae.org (in the US) or www.epsc.ca (in Canada).

- If the lamp should break (it will make a loud bang when it does), unplug the power cord from the outlet, and make sure to request a replacement lamp from your local dealer. Note that shards of glass could damage the projector's internals, or cause injury during handling, so please do not try to clean the projector or replace the lamp yourself.
- If the lamp should break (it will make a loud bang when it does), ventilate the room well, and make sure not to breathe the gas that comes out of the projector vents, or get it in your eyes or mouth.
- Before replacing the lamp, make sure the power switch is off and the power cable is not plugged in, then wait at least 45 minutes for the lamp to cool sufficiently. Handling the lamp while hot can cause burns, as well as damaging the lamp.

- Never unscrew except the appointed (marked by an arrow) screws.
- Do not open the lamp cover while the projector is suspended from above. This is dangerous, since if the lamp's bulb has broken, the shards will fall out when the cover is opened. In addition, working in high places is dangerous, so ask your local dealer to have the lamp replaced even if the bulb is not broken.
- Do not use the projector with the lamp cover removed. At the lamp replacing, make sure that the screws are screwed in firmly. Loose screws could result in damage or injury.

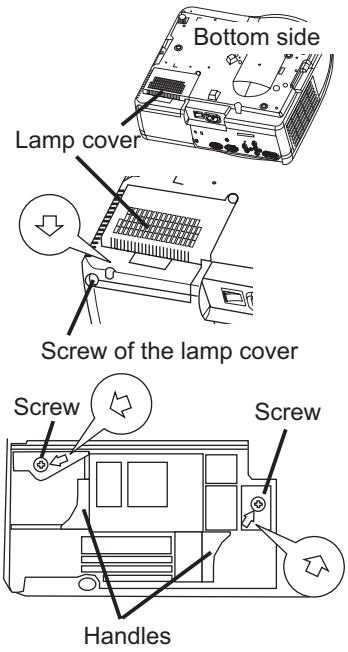
- Use only the lamp of the specified type.
- If the lamp breaks soon after the first time it is used, it is possible that there are electrical problems elsewhere besides the lamp. If this happens, contact your local dealer or a service representative.
- Handle with care: jolting or scratching could cause the lamp bulb to burst during use.
- If the indicators or a message prompts you to replace the lamp (see the section "Related Messages" and "Regarding the indicator Lamps"), replace the lamp as soon as possible. Using the lamp for long periods of time, or past the replacement date, could cause it to burst. Do not use old (used) lamps; this is a cause of breakage.

● **Replacing the Lamp**

If the indicators or a message prompts you to replace the lamp, replace the lamp as soon as possible.

1. Turn off the projector, and unplug the power cord. Allow the lamp bulb to cool for at least 45 minutes.
2. Contact your dealer to prepare a new lamp. Tell the dealer your lamp type number: **DT00661**.
   If the projector is mounted on the ceiling, or if the lamp has broken, also ask the dealer to replace the lamp.

In the case of replacement by yourself,



3. After making sure that the projector has cooled adequately, slowly flip over the projector, so that the bottom is facing up.
4. Unscrew the screw (marked by arrow) of the lamp cover, the slide and take the lamp cover up.
5. Unscrew the 2 screws (marked by arrow), and slowly pick up the lamp by the handles.
6. Insert the new lamp, and retighten firmly two screws unscrewed in the previous process to lock it in place.
7. Slide the lamp cover into place, and retighten firmly the screw of the lamp cover unscrewed in the process number 4.
8. Turn on the projector power, and reset the lamp timer.
   (1) While the projector running, press the MENU button to open the menu. If EASY menu appears, move to ADVANCE menu.
   (2) Choose the “OPTION” on the menu using the ▲/▼ button, then press the ► button or ENTER button.
   (3) Choose the “LAMP TIME” using the ▲/▼ button, then press and hold the RESET button for 3 seconds.
   (4) Choose the “RESET” using the ▲ button.

NOTE • When the lamp has been replaced after the message of “THE POWER WILL TURN OFF AFTER 0hr.” is displayed, complete the following operation within 10 minutes of switching power on.
• Incorrectly resetting of the lamp timer (resetting without replacement, or neglect of resetting after replacement) will result in incorrect message functions.

6-9 Notice of AUTO adjustment

Use of AUTO adjustment with the image through RGB input optimizes V_POSI, H_POSI, H_SIZE and H_PHASE automatically.

In case that projected image has dark tone around its peripheral, AUTO operation sometimes makes artifacts in the image, shifts capture area and so on. Those failures are caused by period of image data is not exactly distinguished to period of blanking on signal processing.

To avoid such phenomena, AUTO function should be used with the full size picture that has bright tone on its peripheral.

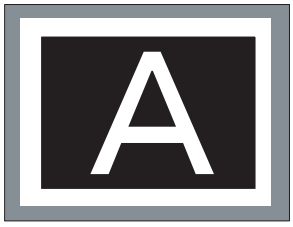


Image when AUTO operates correctly

Image when AUTO fails.

- Noting image of top or bottom lines.
- Shift of the image to East or West.
- Artifacts on image. Etc.

Note

1) The phenomenon at the failure of AUTO adjustment depends on resolution of input source, scene of picture etc.
2) There is no failure above in AUTO with video source through VIDEO, S-VIDEO or COMPONENT input. The reason is why recognition of input signal's standard does not need to search the capture range from input signal itself.

6-10 Related Messages

When the unit's power is on, messages such as those shown below may be displayed. When any such message is displayed on the screen, please respond as described below.

Although these messages will be automatically disappeared around several minutes, it will be reappeared every time the power is turned on.

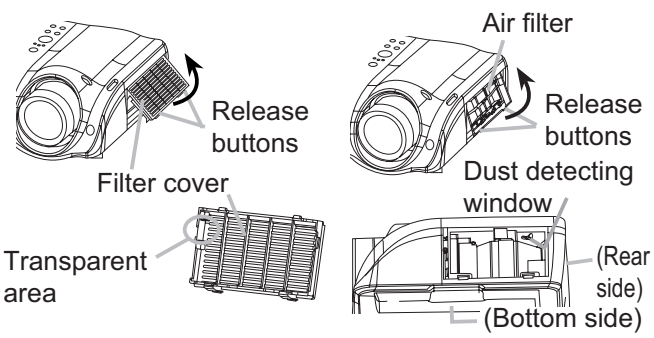
Message	Description
☼ CHANGE THE LAMP AFTER REPLACING LAMP, RESET THE LAMP TIMER.	**The time the lamp timer has counted is approaching 2000 hours.** Preparation of a new lamp, and an early lamp change is recommended. After you have change the lamp, please be sure to reset the lamp timer.
☼ CHANGE THE LAMP AFTER REPLACING LAMP, RESET THE LAMP TIMER. THE POWER WILL TURN OFF AFTER ** hr.	**The time the lamp timer has counted is approaching 2000 hours, so a lamp change within ** hours is recommended.** When lamp usage reaches 2000 hours, the power will automatically be turned off. Please change the lamp by referring to the section "Lamp". After you have changed the lamp, please be sure to reset the lamp timer.
☼ CHANGE THE LAMP AFTER REPLACING LAMP, RESET THE LAMP TIMER. THE POWER WILL TURN OFF AFTER 0 hr.	**As the time the lamp timer has counted has reached 2000 hours, the power will soon be automatically turned off.** Please immediately turn the power off, and change the lamp by referring to the section "Lamp". After changing the lamp, please be sure to reset the lamp timer.
NO INPUT IS DETECTED ON ***	**There is no input signal.** Please confirm the signal input connection, and the status of the signal source.
SYNC IS OUT OF RANGE ON *** fH *****kHz fV *****Hz	**The horizontal or vertical wavelength of the inputted signal is outside of the response parameters of this unit.** Please confirm the specs for this unit or the signal source specs.
CHECK THE AIR FLOW	**The internal portion temperature is rising.** Please turn the power OFF, and allow the unit to cool down at least 20 minutes. After having confi rmed the following items, please turn the power ON again. • Is there blockage of the air passage aperture? • Is the air filter dirty? • Does the peripheral temperature exceed 35°C?
CLEAN THE AIR FILTER POWER OFF FIRST, THEN CLEAN THE AIR FILTER. AFTER CLEANING THE AIR FILTER, RESET THE FILTER TIMER.	**A note of precaution when cleaning the air filter.** Please immediately turn the power OFF, and clean or change the air filter by referring to the "Air Filter" section of this manual. After you have cleaned or changed the air filter, please be sure to reset the filter timer. If the same message is displayed after the treatment, please clean the transparent area of filter cover and the dust-detecting window, according to the following.

NOTE • A lamp has a finite product life. Lamps are characterized by the fact that, after long hours of usage, a lamp will no longer light up, or the lamp will break or burst, etc. This projector is equipped with an automatic shut-down function, such that the power will automatically be turned off when lamp usage time has reached 2000 hours. Please be aware, however, that among lamp types, there are major differences in product lifetimes; a lamp may thus fail to light even prior to the functioning of the automatic shut-down function of this projector.

⚠ CAUTION

• The transparent area of filter cover and the dust-detecting window should be cleaned for normal operation of the optical dust detecting system. Please pay attention not to remain fiber or fragment of cloth inside the duct.

1. Turn off the projector, and unplug the power cord.
2. After making sure that the projector has cooled adequately, remove the filter cover.
   Hold the release buttons of the filter cover, while pulling up it.
3. Wipe the transparent area of the filter cover by using a swab or a soft cloth.
4. Remove the air filter.
   Hold the release buttons of the air filter, while pulling up it.
5. Wipe the dust-detecting window by using a soft cloth.
6. Replace the air filter and filter cover.



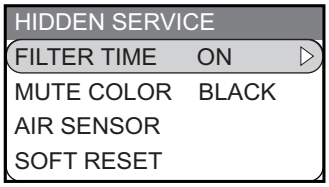
6-11 Regarding the indicator lamps

Lighting and flashing of the POWER indicator, the LAMP indicator, and the TEMP indicator have the meanings as described in the table below. Please respond in accordance with the instructions within the table.

NOTE • When the interior portion has become overheated, for safety purposes, the power source is automatically turned off, and the indicator lamps may also be turned off. In such a case, press the "○" (OFF) side of the main power switch, and wait at least 45 minutes. After the projector has suffi ciently cooled down, please make confirmation of the attachment state of the lamp and lamp cover, and then turn the power on again.

POWER indicator	LAMP indicator	TEMP indicator	Description
Lighting In Orange	Turned off	Turned off	**The projector is in a standby state.** Please refer to the section "Power On/Off".
Blinking In Green	Turned off	Turned off	**The projector is warming up.** Please wait.
Lighting In Green	Turned off	Turned off	**The projector is in an on state.** Ordinary operations may be performed.
Blinking In Orange	Turned off	Turned off	**The projector is cooling down.** Please wait.
Blinking In Red	(discretionary)	(discretionary)	**The projector is cooling down. A certain error has been detected.** Please wait until the POWER indicator finishes blink, and then perform the proper response measure using the item descriptions below as reference.
Blinking In Red or Lighting In Red	Lighting In Red	Turned off	**The lamp does not light, and there is a possibility that interior portion has become heated.** Please turn the power off, and allow the unit to cool down at least 20 minutes. After the projector has sufficiently cooled down, please make confirmation of the following items, and then turn the power on again. • Is there blockage of the air passage aperture? • Is the air filter dirty? • Does the peripheral temperature exceed 35°C? If the same indication is displayed after the treatment, please change the lamp by referring to the section "Lamp".
Blinking In Red or Lighting In Red	Turned off	Blinking In Red	**The cooling fan is not operating.** Please turn the power off, and allow the unit to cool down at least 20 minutes. After the projector has sufficiently cooled down, please make confirmation that no foreign matter has become caught in the fan, etc., and then turn the power on again.
Blinking In Red or Lighting In Red	Turned off	Lighting In Red	**There is a possibility that the interior portion has become heated.** Please turn the power off, and allow the unit to cool down at least 20 minutes. After the projector has suffi ciently cooled down, please make confirmation of the following items, and then turn the power on again. • Is there blockage of the air passage aperture? • Is the air filter dirty? • Does the peripheral temperature exceed 35°C? If the same indication is displayed after the treatment, please change the lamp by referring to the section "Lamp".
Lighting In Green	Alternative blinking in Red		**There is a possibility that the interior portion has become overcooled.** Please use the unit within the usage temperature parameters (5°C to 35°C). After the treatment, resent the power to ON.
Lighting In Green	Simultaneous blinking in Red		**It is time to clean the air filter, or there is no air filter.** Please immediately turn the power OFF, and clean or change the air filter by referring to the section "Air Filter". After cleaning or changed the lamp, please be sure to reset the filter timer. After the treatment, resent the power to ON.

6-12 HIDDEN SERVICE MENU

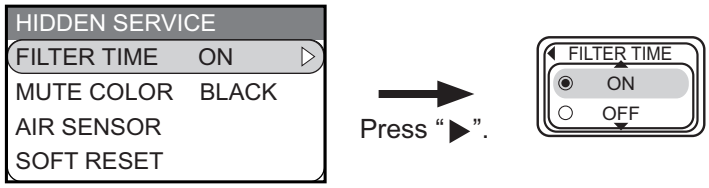


To display the OSD for “HIDDEN SERVICE MENU” set up.

By the control panel	By the remote control transmitter
1. Display the menu by the “MENU” button. 2. Select the “OPTION” on the menu. 3. Continue press the button “◀” first, then press the button “◀” together with “INPUT”, and hold for 3 seconds.	1. Display the menu by the “MENU” button. (If EASY MENU appears, choose “Go to Advance menu” to display ADVANCE MENU.) 2. Select the “OPTION” on the menu. 3. Press the “LIGHT” button. Next hold the “LIGHT” button for 3 seconds.

● Setup of Filter time (“ON” or “OFF”)

1. Select the “FILTER TIME” on the OSD using button “▼” .
   Next press the “▶” to select “FILTER TIME MENU” by the HIDDEN SERVICE MENU.

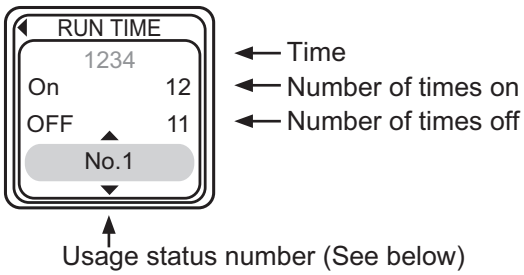


2. ON : Select the “ON” on the OSD using button “▲”.
   OFF : Select the “OFF” on the OSD using button “▼”.
3. The OSD will be ended by no operation for 10 seconds or change of input signal. To end immediately, use one of buttons except buttons “▲”, “▼”, “◀”, “▶”.

6-13 RUN TIME window

● Set operating time display method (accumulated lamp time display method)

1. Select “OPTION” from the Advance menu, then place the cursor on the “LAMP TIME”.
2. Press the [Reset] button once, then press [LIGHT] button of the remote control for 3 seconds or more to display the screen shown below. (The menu will close after 10 seconds if there are no further operations.)
3. Use “▲” or “▼” to select the usage status number. (The usage status is as shown below.)



Usage status number

0 ..... Total usage status
1 ..... Current usage status
2 ..... Usage status before first reset
3 ..... Usage status before second reset
||
9 ..... Usage status before eighth reset

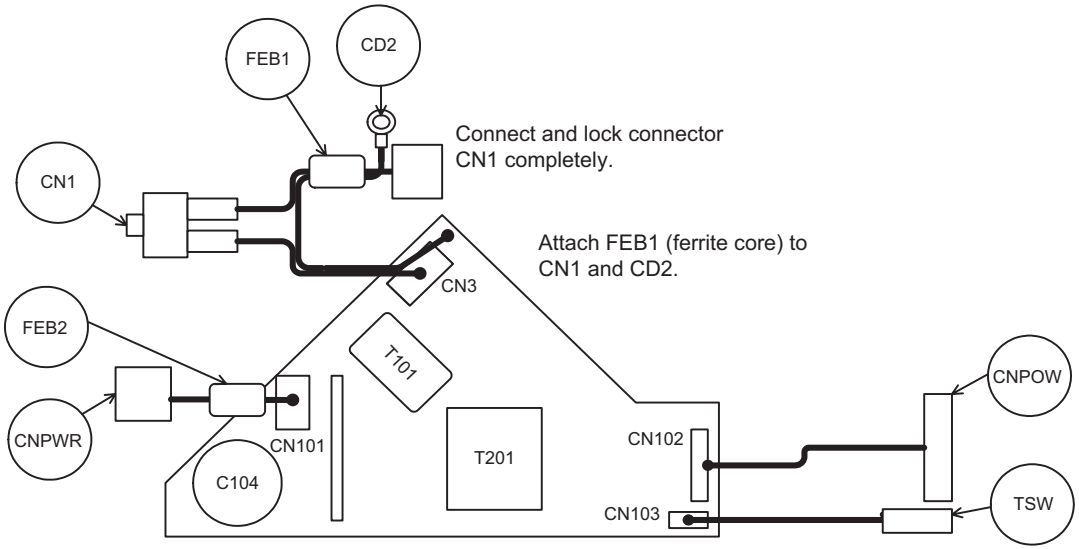
Circuit/Ballast power circuit board wiring

Circuit power circuit board wiring

(1) Connect TSW.
(2) Connect CNPOW.
(3) Connect CNPWR and FEB2.
(4) Connect CN1, CD2, and FEB1.

Ballast power circuit board wiring

(1) Connect CNBAR.
(2) Wire lamp lead and CNBAR.

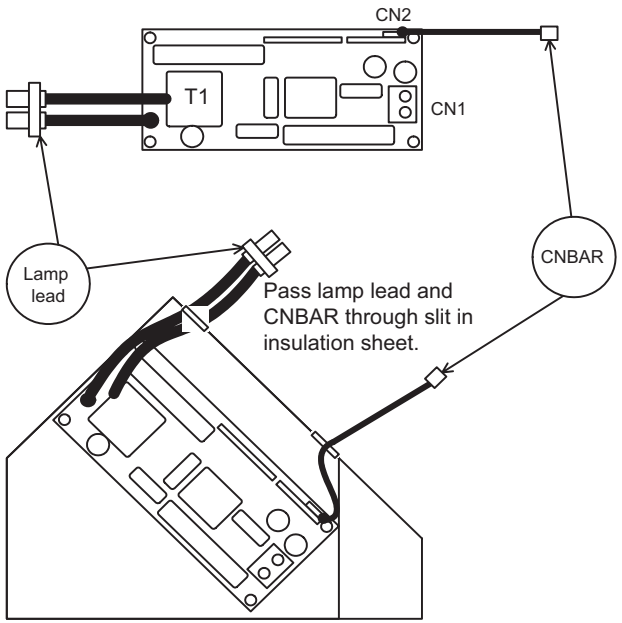


Connect and lock CNPWR connector to CN101 completely.
Do not insert incorrectly –
Circuit power system is 4P;
Ballast power system is 3P.

Attach FEB2 (ferrite core) to CNPWR close to circuit board.

Confirm CN102 and CN103 are correctly connected (as they cannot be accessed later).

Confirm CNBAR is correctly connected (as it cannot be accessed later).

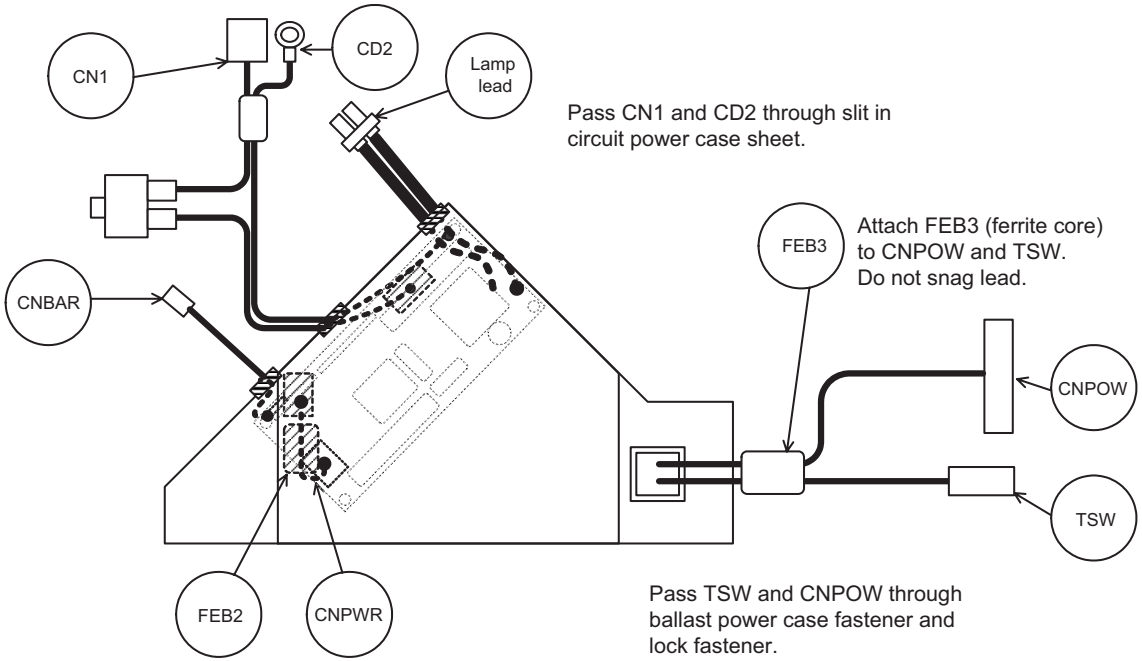


Wiring diagram 1 (C11H)

Power block wiring (for circuit board block SUB ASS'Y assembly)

Attachment of ballast power block

(1) Wire and connect CNPWR.
(2) Wire CN1 and CD2.
(3) Wire TSW and CNPOW. Attach FEB3.

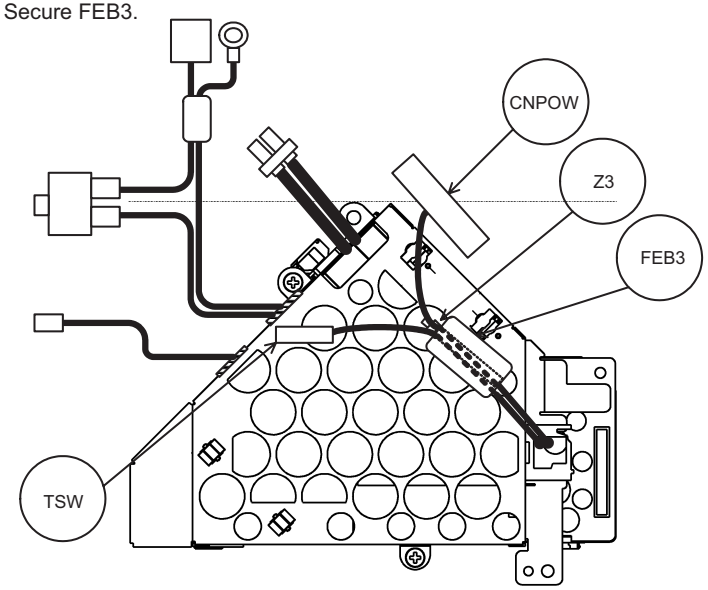


Assembly procedure

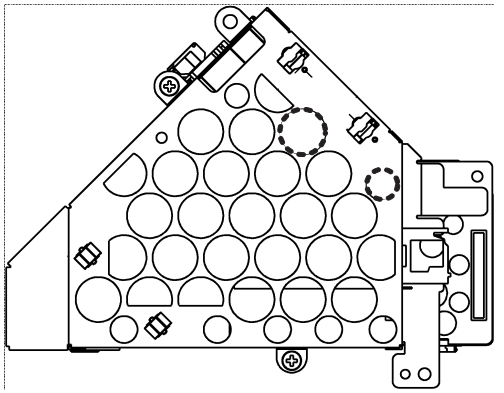
(1) Pass CN1 and CD2 through slit in insulation sheet of circuit board power block.
(2) Connect one end of CNPWR to ballast power.
(3) When attaching ballast power block to circuit power block, pass TSW and CNPOW through ballast power block fastener. Lock fastener.

After attachment of ballast power block

(1) Secure FEB3.



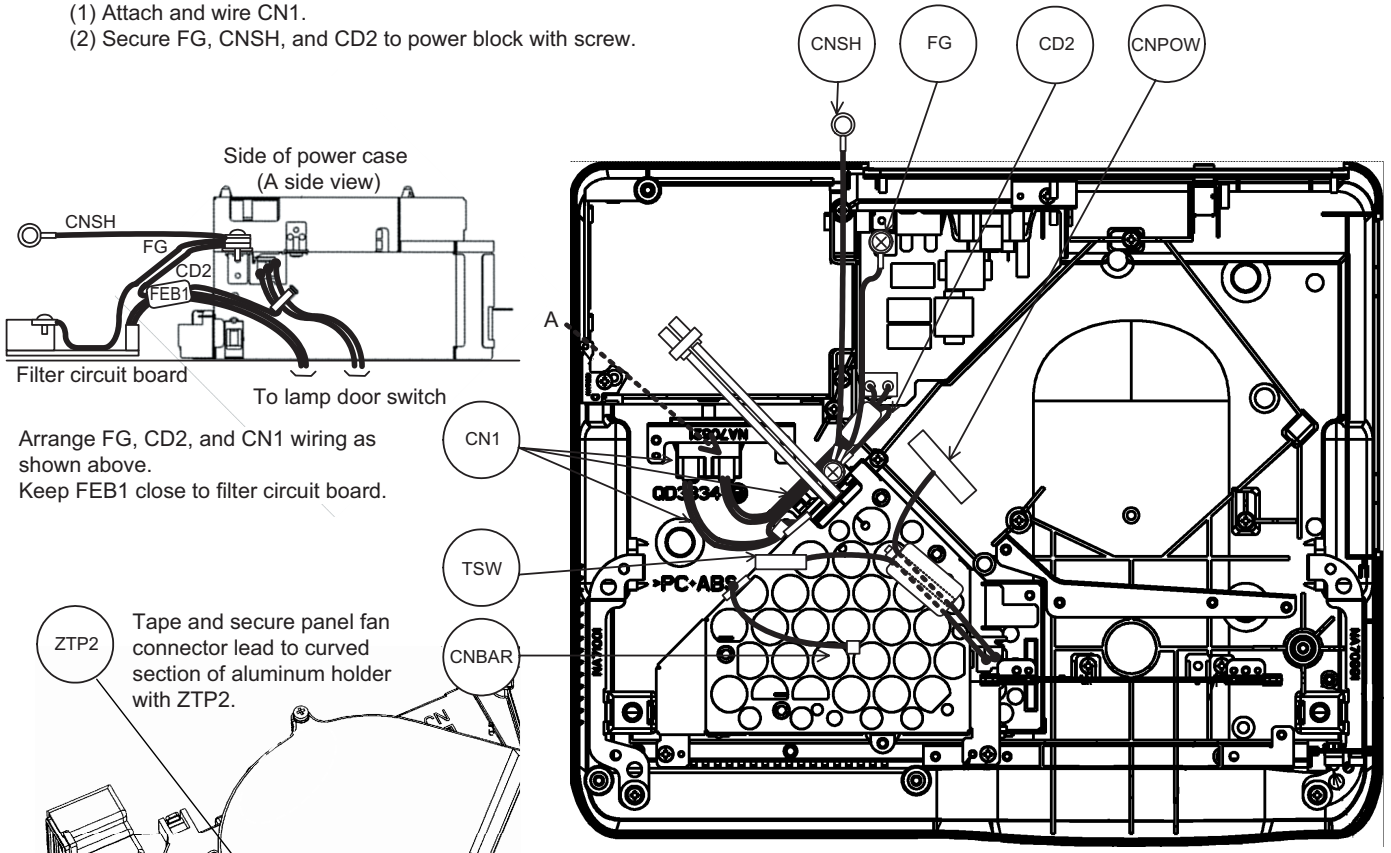
Pass binding bands through holes on top of ballast power case (shown below with dotted lines) and secure FEB3.
Cut excess length from binding bands.



Wiring diagram 2 (C11H)

Preparation of optical engine work and wiring for attachment of bottom case

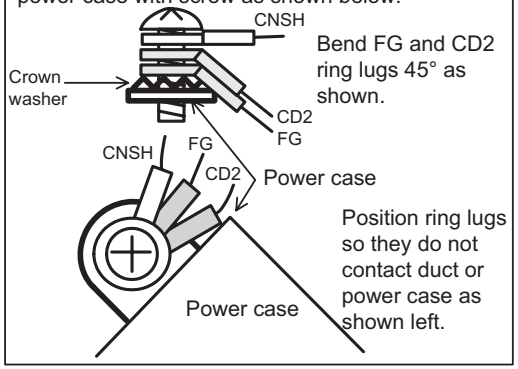
(1) Attach and wire CN1.
(2) Secure FG, CNSH, and CD2 to power block with screw.

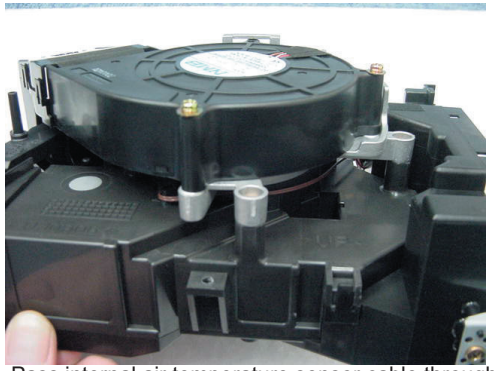


Arrange FG, CD2, and CN1 wiring as shown above.
Keep FEB1 close to filter circuit board.

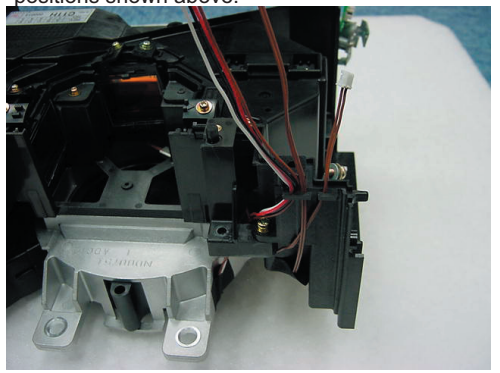
Leave away from this area for fitting bottom case and lead wire.

Secure CNSH, FG, CD2, and crown washer to power case with screw as shown below.





Pass internal air temperature sensor cable through positions shown above.



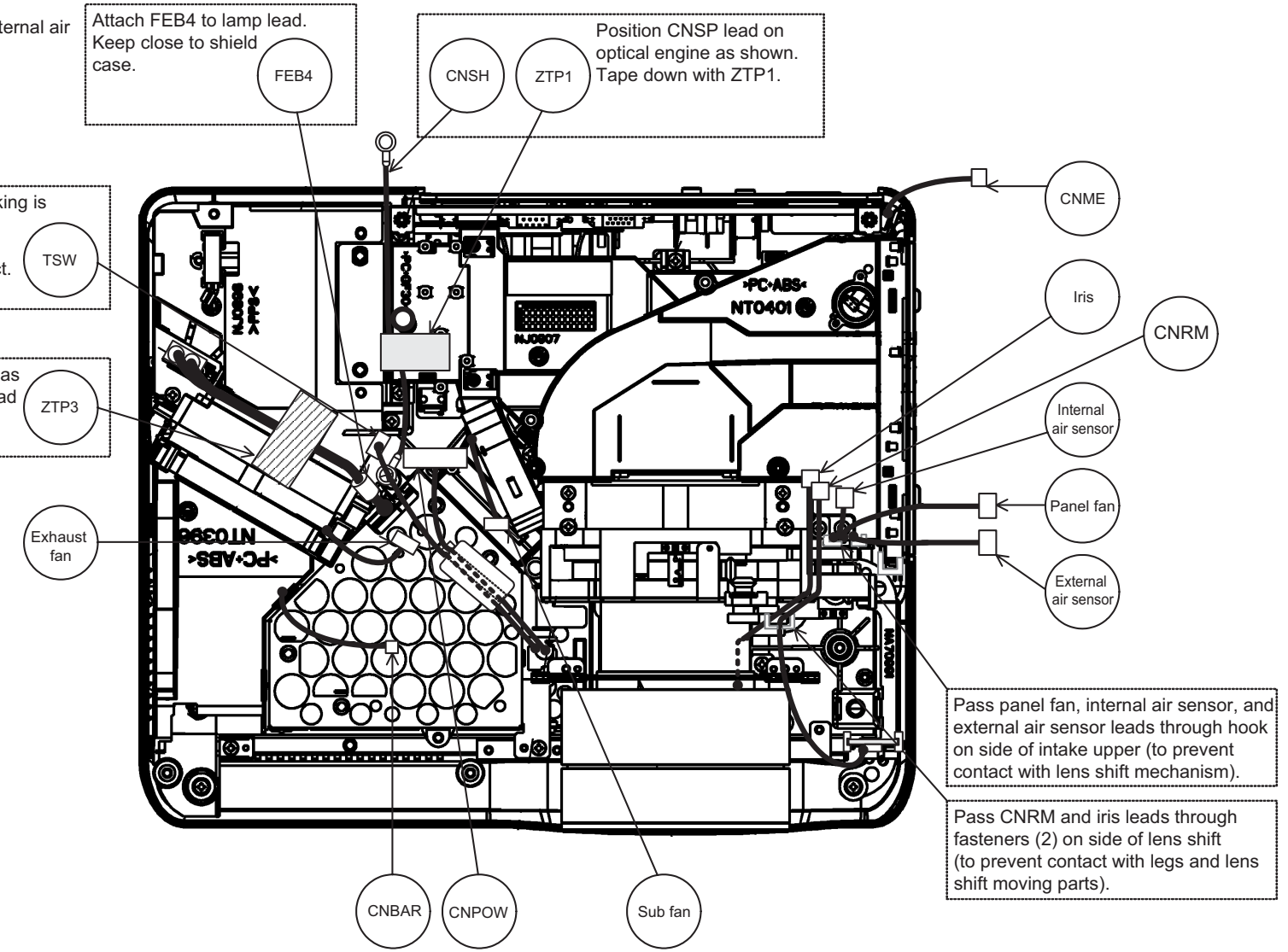
Pass panel fan cable through positions shown above.

Wiring diagram 3 (C11H)

Optical engine / exhaust duct mounting wiring

Maintain clearance around duct to prevent leads snagging when mounting optical engine / exhaust duct.

(1) Attach panel fan, internal air sensor, external air sensor, and CNRM lead.
(2) Attach iris lead.
(3) Attach TSW.
(4) Connect lamp lead. Attach FEB4.
(5) Do not snag CN1.

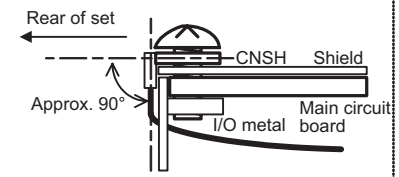


Wiring diagram 4 (C11H)

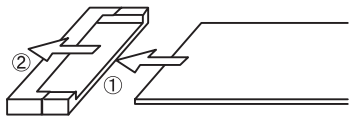
Main circuit board mounting wiring

(1) Connect CNPOW. Exercise caution when accessing back of circuit board.
(2) Connect CNSH, CNBAR, exhaust fan, sub fan, internal air sensor, iris, CNRM, panel fan, external air sensor, and CNME.
(3) Connect flexible cable for liquid crystal panel.

Secure CNSH with screw as shown below.

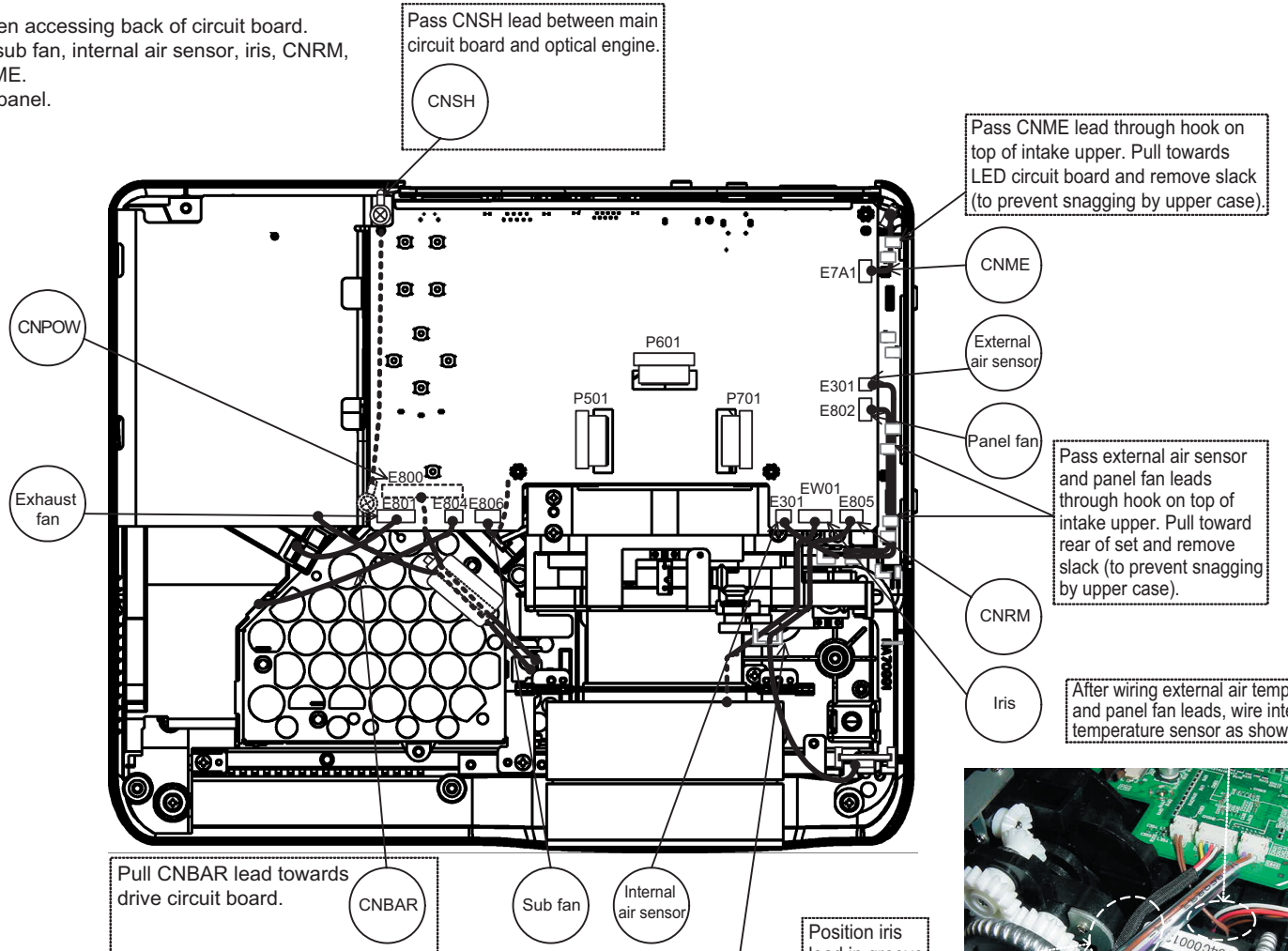


Attach flexible cable as shown below.



Connector Base Flexible cable

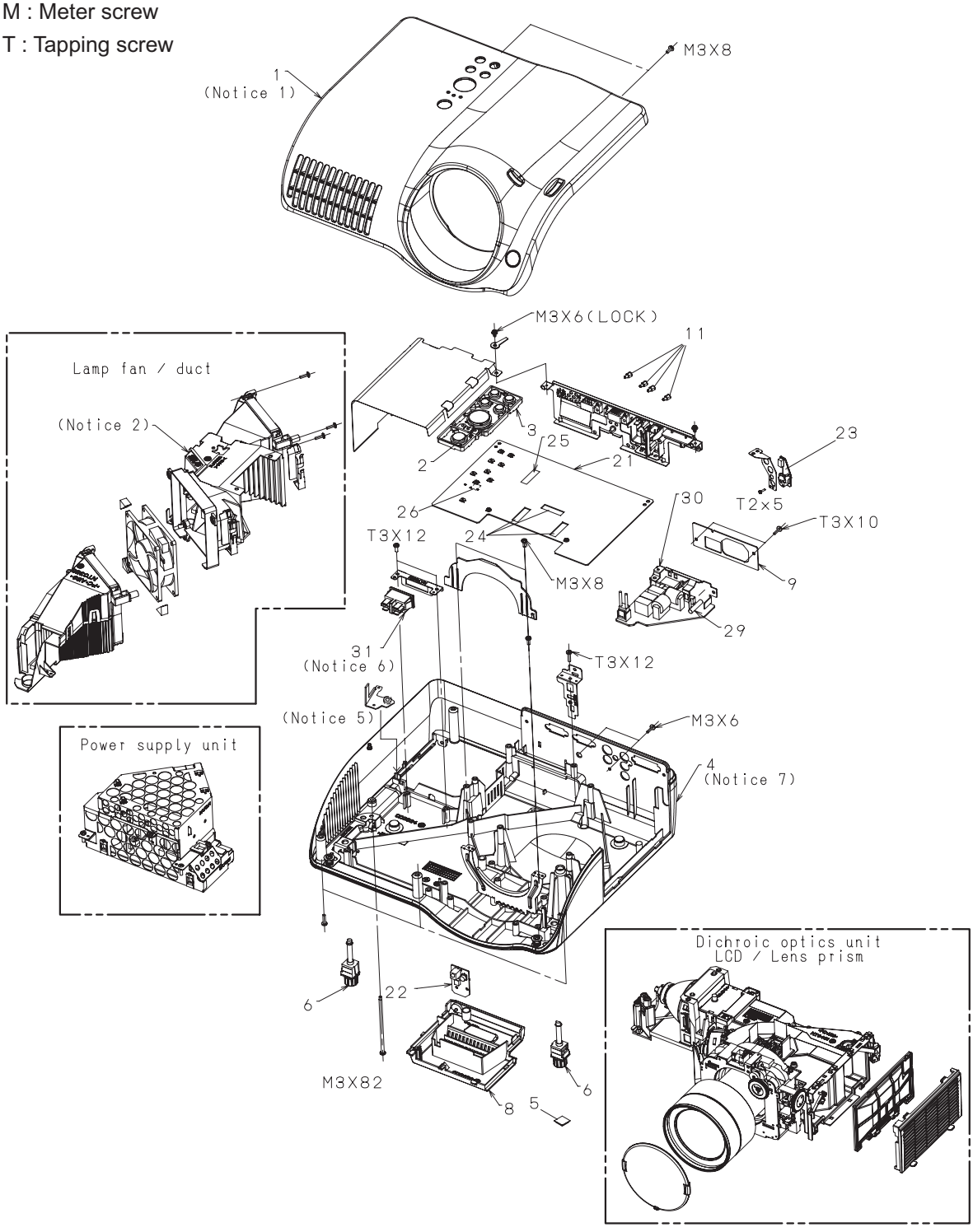
① Fit flexible cable securely into connector base. Insert with correct surface up as connector contacts on top surface only.
② Move the lock hinge in the direction of the arrow and lock securely.



Wiring diagram 5 (C11H)

8. Disassembly diagram

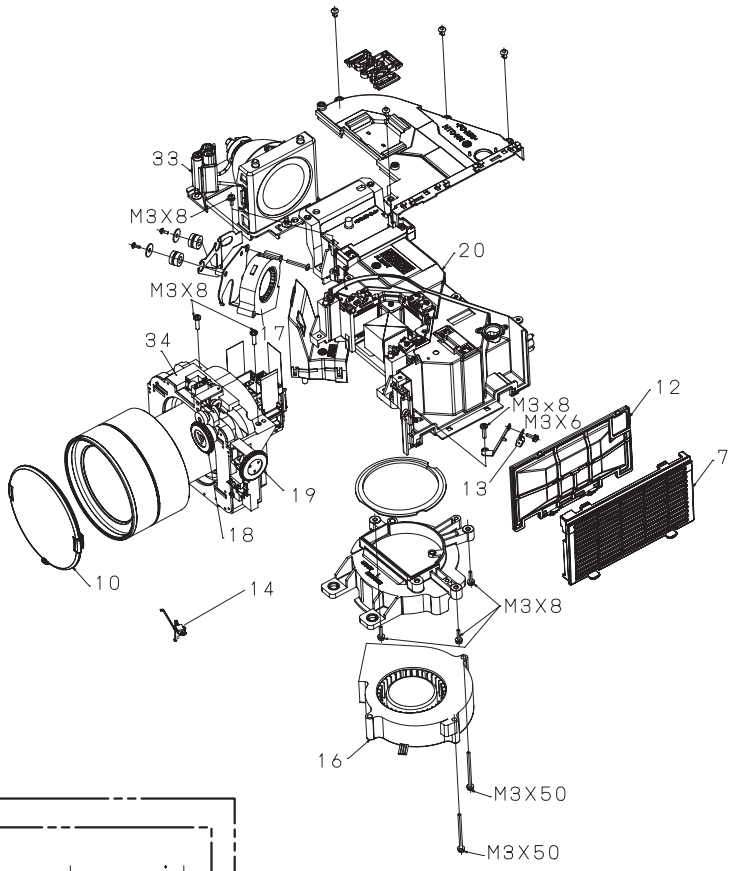
M : Meter screw
T : Tapping screw



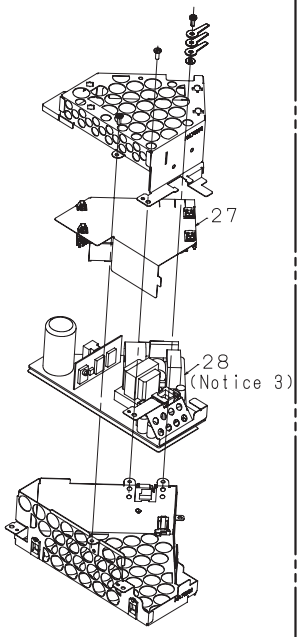
M : Meter screw

T : Tapping screw

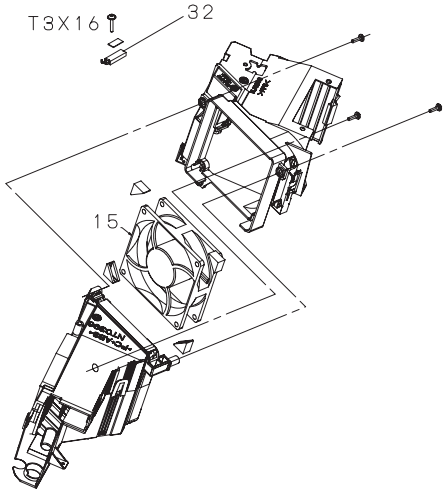
Dichroic optics unit
LCD / Lens prism



Power supply unit
(Notice 4)

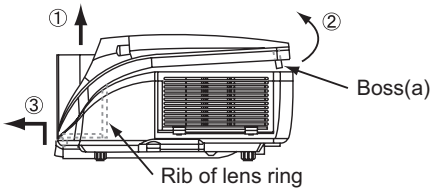


Lamp fan / duct



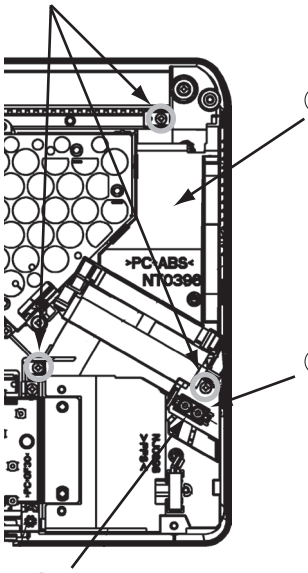
Notice

1. Remove upper case with care as below.
① Shift the lens upmost using lens shift dials.
② Lift up tail of upper case somewhat to avoid interference between boss (a) and lamp house.



③ Next, shift upper case forwards as lifting it up slightly in order that rib of lens ring may not catch upper case.

2. Disconnect lamp lead connector with care as below.
① Remove screws on duct unit and connector cover.

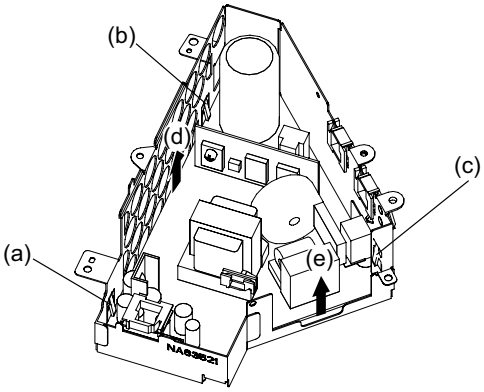


② Pull up duct unit and disconnect connector of lamp lead with lamp socket.

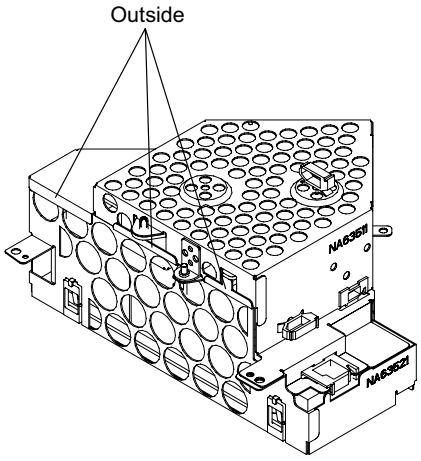
③ Remove connector cover.

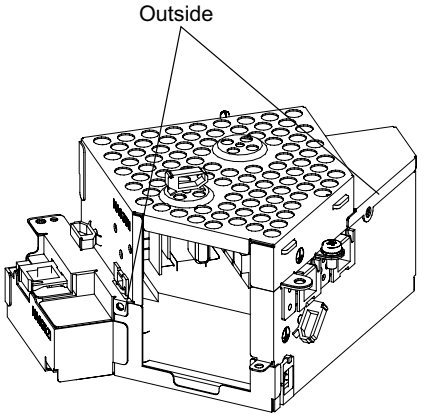
④ Take off connector of lamp lead.

3. To remove power board from shield case, push board in direction of arrow, and unlock catches (a) and (b) on board holders with screwdriver. (Lift board toward (d).)
Unlock catch (c) with screwdriver, and remove holding (e).

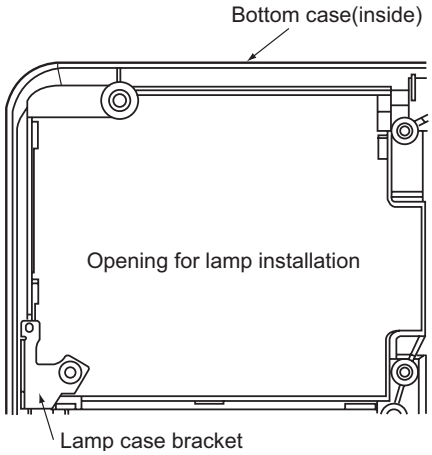


4. Align shield case joints.





5. Attach lamp case bracket as shown below after removing dichroic optics unit and duct assembly.

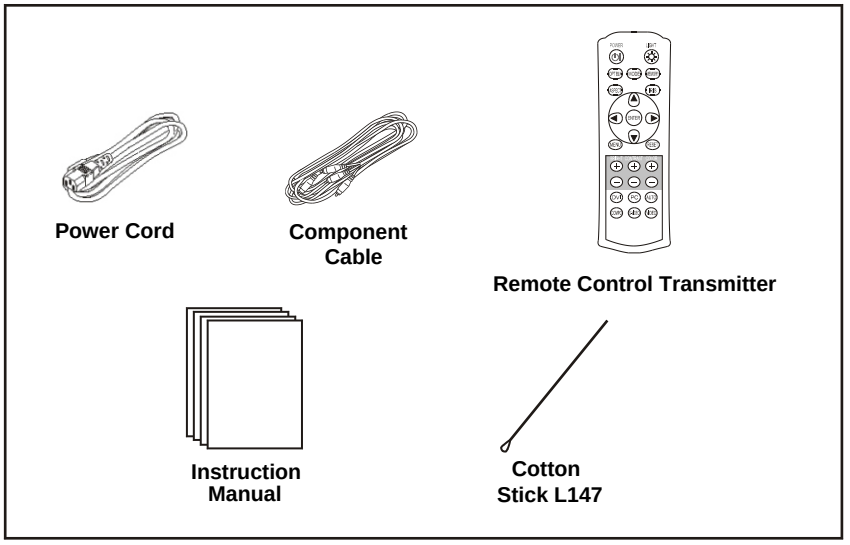


6. Never remove connection of the fasten terminals of LAMP DOOR SWITCH.

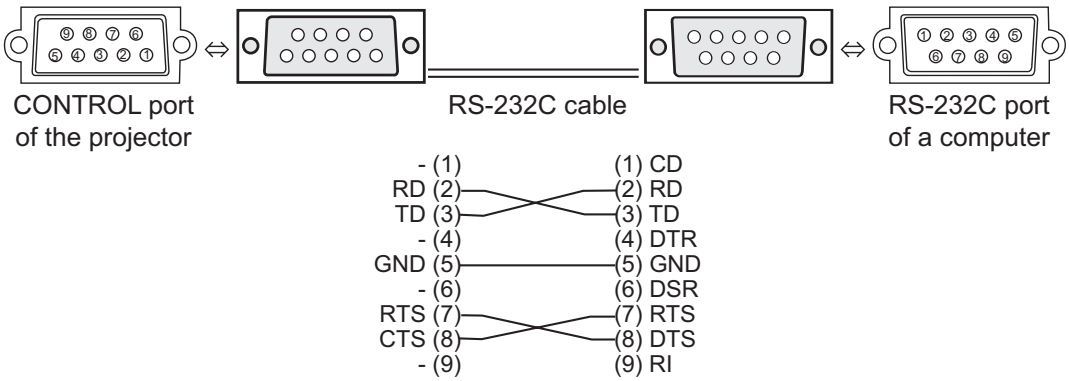
7. After attaching MAIN board assembly to case with M3x6 lock screws, tighten screws on back of bottom case.

Replacement Parts List

THE UPDATED PARTS LIST FOR THIS MODEL IS AVAILABLE ON ESTA



10. RS-232C communication



● Connecting the cable

(1) Turn off the projector and the computer power supplies.

(2) Connect the CONTROL port of the projector with a RS-232C port of the computer by a RS-232C cable. Use the cable that fulfills the specification shown in the previous page.

(3) Turn on the computer power supply and after the computer has started up, turn on the projector power supply.

● Communications setting

19200 bps, 8N1

1. Protocol

Consist of header (7 bytes) + Command data (6 bytes)

2. Header

BE + EF + 03 + 06 + 00 + CRC_low + CRC_high

CRC_low: Lower byte of CRC flag for command data

CRC_high: Upper byte of CRC flag for command data

3. Command Data

Command Data Chart

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Setting code	
low	high	low	high	low	high

Action (byte_0 - 1)

Action	Classification	Content
1	Set	Change setting to desired value.
2	Get	Read projector internal setup value.
4	Increment	Increment setup value by 1.
5	Decrement	Decrement setup value by 1.
6	Execute	Run a command.

Requesting projector status (Get command)

(1) Send the request code Header + Command data (‘02H’+‘00H’+ type (2 bytes)+ ‘00H’+‘00H’) from the computer to the projector.
(2) The projector returns the response code ‘1DH’+ data (2 bytes) to the computer.

Changing the projector settings (Set command)

(1) Send the setting code Header + Command data (‘01H’+‘00H’+ type (2 bytes) + setting code (2 bytes)) from the computer to the projector.
(2) The projector changes the setting based on the above setting code.
(3) The projector returns the response code ‘06H’ to the computer.

Using the projector default settings (Reset Command)

(1) The computer sends the default setting code Header + Command data (‘06H’+ ‘00H’+ type (2 bytes) + ‘00H’+‘00H’) to the projector.
(2) The projector changes the specified setting to the default value.
(3) The projector returns the response code ‘06H’ to the computer.

Increasing the projector setting value (Increment command)

(1) The computer sends the increment code Header + Command data (‘04H’+ ‘00H’+ type (2 bytes) +‘00H’+ ‘00H’) to the projector.
(2) The projector in creases the setting value on the above setting code.
(3) The projector returns the response code ‘06H’ to the computer.

Decreasing the projector setting value (Decrement command)

(1) The computer sends the decrement code Header + Command data (‘05H’+ ‘00H’+ type (2 bytes) +‘00H’ + ‘00H’) to the projector.
(2) The projector decreases the setting value on the above setting code.
(3) The projector returns the response code ‘06H’ to the computer.

When the projector cannot understand the received command

When the projector cannot understand the received command, the error code ‘15H’ is sent back to the computer.

Sometimes the projector cannot properly receive the command. In such a case, the command is not executed and the error code ‘15H’ is sent back to the computer. If this error code is returned, send the same command again.

When the projector cannot execute the received command.

When the projector cannot execute the received command, the error code ‘1cH’ + ‘xxxxH’ is sent back to the computer. When the data length is greater than indicated by the data length code, the projector ignore the excess data code.

Conversely when the data length is shorter than indicated by the data length code, an error code will be returned to the computer.

NOTE • Operation cannot be guaranteed when the projector receives an undefined command or data.
• Provide an interval of at least 40ms between the response code and any other code.
• The projector outputs test data when the power supply is switched ON, and when the lamp is lit. Ignore this data.
• Commands are not accepted during warm-up.

● Command data chart

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
Power	Set	Turn off	BE EF	03	06 00	2A D3	01 00	00 60	00 00
		Turn off	BE EF	03	06 00	BA D2	01 00	00 60	01 00
	Get		BE EF	03	06 00	19 D3	02 00	00 60	00 00
			(Example return) 00 00 (Off) 01 00 (On) 02 00 (Cool down)						
Input Source	Set	DVI / M1-D	BE EF	03	06 00	0E D2	01 00	00 20	03 00
		RGB1 / COMPUTER	BE EF	03	06 00	FE D2	01 00	00 20	00 00
		VIDEO	BE EF	03	06 00	6E D3	01 00	00 20	01 00
		S-VIDEO	BE EF	03	06 00	9E D3	01 00	00 20	02 00
		COMPONENT	BE EF	03	06 00	AE D1	01 00	00 20	05 00
	Get		BE EF	03	06 00	CD D2	02 00	00 20	00 00
Error Status	Get		BE EF	03	06 00	D9 D8	02 00	20 60	00 00
			(Example return) 00 00 (Normal) 01 00 (Cover error) 02 00 (Fan error) 03 00 (Lamp error) 04 00 (Temp error) 05 00 (Air flow error) 06 00 (Lamp time error) 07 00 (Cool error) 08 00 (Filter error)						
BRIGHT	Get		BE EF	03	06 00	89 D2	02 00	03 20	00 00
	Increment		BE EF	03	06 00	EF D2	04 00	03 20	00 00
	Decrement		BE EF	03	06 00	3E D3	05 00	03 20	00 00
BRIGHT Reset	Execute		BE EF	03	06 00	58 D3	06 00	00 70	00 00
CONTRAST	Get		BE EF	03	06 00	FD D3	02 00	04 20	00 00
	Increment		BE EF	03	06 00	9B D3	04 00	04 20	00 00
	Decrement		BE EF	03	06 00	4A D2	05 00	04 20	00 00
CONTRAST Reset	Execute		BE EF	03	06 00	A4 D2	06 00	01 70	00 00
MODE	Set	NORMAL	BE EF	03	06 00	23 F6	01 00	BA 30	00 00
		CINEMA	BE EF	03	06 00	B3 F7	01 00	BA 30	01 00
		MUSIC	BE EF	03	06 00	43 F7	01 00	BA 30	02 00
		SPORTS	BE EF	03	06 00	D3 F6	01 00	BA 30	03 00
		DYNAMIC	BE EF	03	06 00	E3 F4	01 00	BA 30	04 00
	Get		BE EF	03	06 00	10 F6	02 00	BA 30	00 00
			(Example return) 00 00 (Normal) 01 00 (Cinema) 02 00 (Music) 03 00 (Sports) 04 00 (Dynamic) 10 00 (Custom)						
GAMMA		#1 DEFAULT	BE EF	03	06 00	07 E9	01 00	A1 30	20 00
		#1 CUSTOM	BE EF	03	06 00	07 FD	01 00	A1 30	10 00
		#2 DEFAULT	BE EF	03	06 00	97 E8	01 00	A1 30	21 00
		#2 CUSTOM	BE EF	03	06 00	97 FC	01 00	A1 30	11 00
		#3 DEFAULT	BE EF	03	06 00	67 E8	01 00	A1 30	22 00
		#3 CUSTOM	BE EF	03	06 00	67 FC	01 00	A1 30	12 00
		#4 DEFAULT	BE EF	03	06 00	F7 E9	01 00	A1 30	23 00
		#4 CUSTOM	BE EF	03	06 00	F7 FD	01 00	A1 30	13 00
	Get		BE EF	03	06 00	F4 F0	02 00	A1 30	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
User Gamma Pattern	Set	Off	BE EF	03	06 00	FB FA	01 00	80 30	00 00
		9 step gray scale	BE EF	03	06 00	6B FB	01 00	80 30	01 00
		15 steps gray scale	BE EF	03	06 00	9B FB	01 00	80 30	02 00
		Ramp	BE EF	03	06 00	0B FA	01 00	80 30	03 00
	Get		BE EF	03	06 00	C8 FA	02 00	80 30	00 00
User Gamma Point 1	Get		BE EF	03	06 00	08 FE	02 00	90 30	00 00
	Increment		BE EF	03	06 00	6E FE	04 00	90 30	00 00
	Decrement		BE EF	03	06 00	BF FF	05 00	90 30	00 00
User Gamma Point 2	Get		BE EF	03	06 00	F4 FF	02 00	91 30	00 00
	Increment		BE EF	03	06 00	92 FF	04 00	91 30	00 00
	Decrement		BE EF	03	06 00	43 FE	05 00	91 30	00 00
User Gamma Point 3	Get		BE EF	03	06 00	B0 FF	02 00	92 30	00 00
	Increment		BE EF	03	06 00	D6 FF	04 00	92 30	00 00
	Decrement		BE EF	03	06 00	07 FE	05 00	92 30	00 00
User Gamma Point 4	Get		BE EF	03	06 00	4C FE	02 00	93 30	00 00
	Increment		BE EF	03	06 00	2A FE	04 00	93 30	00 00
	Decrement		BE EF	03	06 00	FB FF	05 00	93 30	00 00
User Gamma Point 5	Get		BE EF	03	06 00	38 FF	02 00	94 30	00 00
	Increment		BE EF	03	06 00	5E FF	04 00	94 30	00 00
	Decrement		BE EF	03	06 00	8F FE	05 00	94 30	00 00
User Gamma Point 6	Get		BE EF	03	06 00	C4 FE	02 00	95 30	00 00
	Increment		BE EF	03	06 00	A2 FE	04 00	95 30	00 00
	Decrement		BE EF	03	06 00	73 FF	05 00	95 30	00 00
User Gamma Point 7	Get		BE EF	03	06 00	80 FE	02 00	96 30	00 00
	Increment		BE EF	03	06 00	E6 FE	04 00	96 30	00 00
	Decrement		BE EF	03	06 00	37 FF	05 00	96 30	00 00
User Gamma Point 8	Get		BE EF	03	06 00	7C FF	02 00	97 30	00 00
	Increment		BE EF	03	06 00	1A FF	04 00	97 30	00 00
	Decrement		BE EF	03	06 00	CB FE	05 00	97 30	00 00
COLOR TEMP	Set	6500K	BE EF	03	06 00	AB C5	01 00	B0 30	41 00
		7500K	BE EF	03	06 00	0B C3	01 00	B0 30	4B 00
		8000K	BE EF	03	06 00	FB C9	01 00	B0 30	50 00
		8500K	BE EF	03	06 00	AB CA	01 00	B0 30	55 00
		9300K	BE EF	03	06 00	6B CD	01 00	B0 30	5D 00
		DYNAMIC	BE EF	03	06 00	3B F2	01 00	B0 30	08 00
		CUSTOM	BE EF	03	06 00	3B F8	01 00	B0 30	10 00
	Get		BE EF	03	06 00	C8 F5	02 00	B0 30	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
COLOR TEMP GAIN R	Get		BE EF	03	06 00	34 F4	02 00	B1 30	00 00
	Increment		BE EF	03	06 00	52 F4	04 00	B1 30	00 00
	Decrement		BE EF	03	06 00	83 F5	05 00	B1 30	00 00
COLOR TEMP GAIN G	Get		BE EF	03	06 00	70 F7	02 00	B2 30	00 00
	Increment		BE EF	03	06 00	16 F7	04 00	B2 30	00 00
	Decrement		BE EF	03	06 00	C7 F5	05 00	B2 30	00 00
COLOR TEMP GAIN B	Get		BE EF	03	06 00	8C F5	02 00	B3 30	00 00
	Increment		BE EF	03	06 00	EA F5	04 00	B3 30	00 00
	Decrement		BE EF	03	06 00	3B F4	05 00	B3 30	00 00
COLOR TEMP OFFSET R	Get		BE EF	03	06 00	04 F5	02 00	B5 30	00 00
	Increment		BE EF	03	06 00	62 F5	04 00	B5 30	00 00
	Decrement		BE EF	03	06 00	B3 F4	05 00	B5 30	00 00
COLOR TEMP OFFSET G	Get		BE EF	03	06 00	40 F5	02 00	B6 30	00 00
	Increment		BE EF	03	06 00	26 F5	04 00	B6 30	00 00
	Decrement		BE EF	03	06 00	F7 F4	05 00	B6 30	00 00
COLOR TEMP OFFSET B	Get		BE EF	03	06 00	BC F4	02 00	B7 30	00 00
	Increment		BE EF	03	06 00	DA F4	04 00	B7 30	00 00
	Decrement		BE EF	03	06 00	0B F5	05 00	B7 30	00 00
COLOR	Get		BE EF	03	06 00	B5 72	02 00	02 22	00 00
	Increment		BE EF	03	06 00	D3 72	04 00	02 22	00 00
	Decrement		BE EF	03	06 00	02 73	05 00	02 22	00 00
COLOR Reset	Execute		BE EF	03	06 00	80 D0	06 00	0A 70	00 00
TINT	Get		BE EF	03	06 00	49 73	02 00	03 22	00 00
	Increment		BE EF	03	06 00	2F 73	04 00	03 22	00 00
	Decrement		BE EF	03	06 00	Fe 72	05 00	03 22	00 00
TINT Reset	Execute		BE EF	03	06 00	7C D1	06 00	0B 70	00 00
SHARPNESS	Get		BE EF	03	06 00	F1 72	02 00	01 22	00 00
	Increment		BE EF	03	06 00	97 72	04 00	01 22	00 00
	Decrement		BE EF	03	06 00	46 73	05 00	01 22	00 00
SHARPNESS Reset	Execute		BE EF	03	06 00	C4 D0	06 00	09 70	00 00
MY MEMORY Load	Set	1	BE EF	03	06 00	0E D7	01 00	14 20	00 00
		2	BE EF	03	06 00	9E D6	01 00	14 20	01 00
		3	BE EF	03	06 00	6E D6	01 00	14 20	02 00
		4	BE EF	03	06 00	FE D7	01 00	14 20	03 00
MY MEMORY Save	Set	1	BE EF	03	06 00	F2 D6	01 00	15 20	00 00
		2	BE EF	03	06 00	62 D7	01 00	15 20	01 00
		3	BE EF	03	06 00	92 D7	01 00	15 20	02 00
		4	BE EF	03	06 00	02 D6	01 00	15 20	03 00
PROGRESSIVE	Set	TURN OFF	BE EF	03	06 00	4A 72	01 00	07 22	00 00
		TV	BE EF	03	06 00	DA 73	01 00	07 22	01 00
		FILM	BE EF	03	06 00	2A 73	01 00	07 22	02 00
	Get		BE EF	03	06 00	79 72	02 00	07 22	00 00

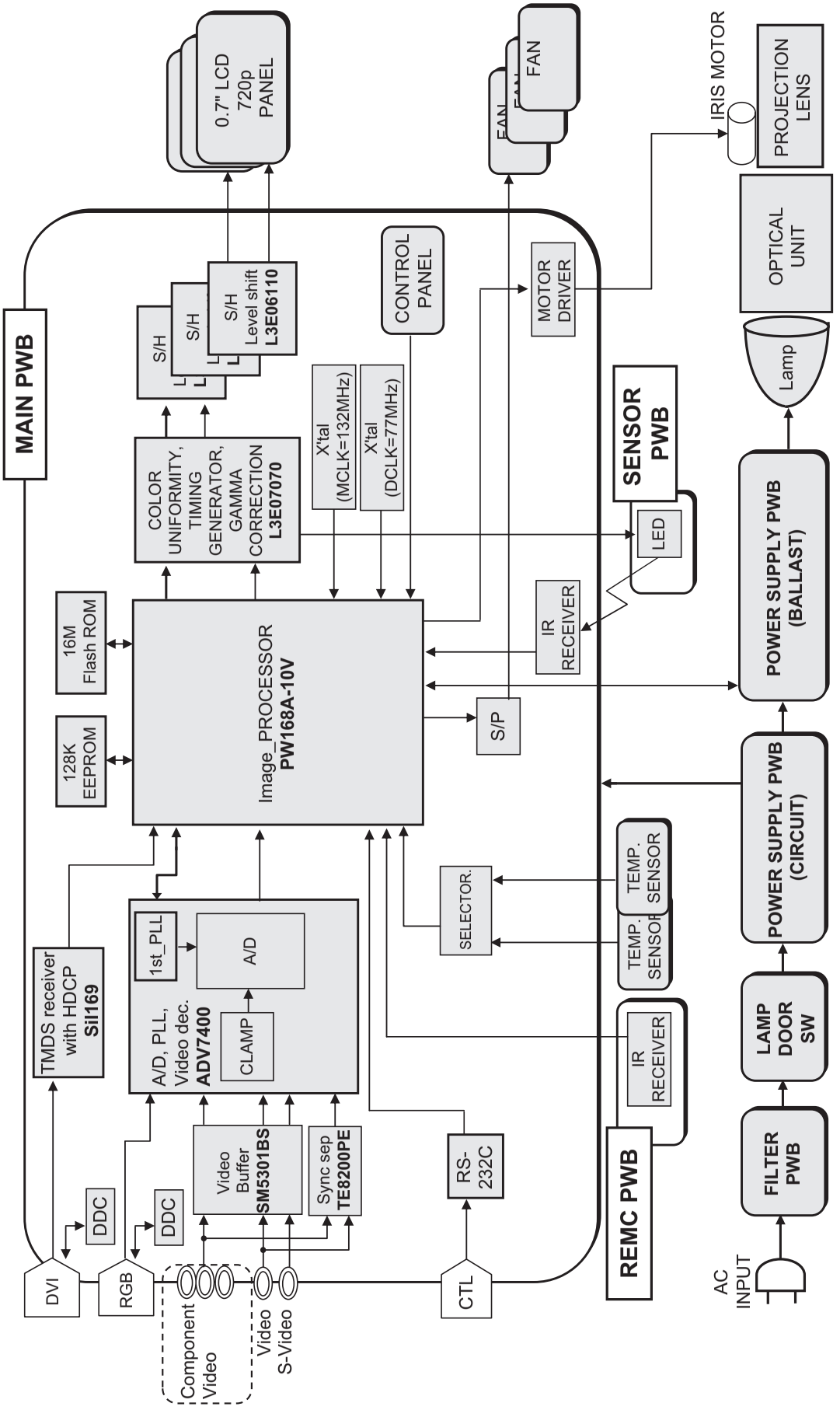
Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
ASPECT	Set	4:3	BE EF	03	06 00	9E D0	01 00	08 20	00 00
		16:9	BE EF	03	06 00	0E D1	01 00	08 20	01 00
		WIDE	BE EF	03	06 00	CE D3	01 00	08 20	05 00
		MOVIE1	BE EF	03	06 00	3E D3	01 00	08 20	06 00
		MOVIE2	BE EF	03	06 00	AE D2	01 00	08 20	07 00
		NORMAL	BE EF	03	06 00	5E DD	01 00	08 20	10 00
	Get		BE EF	03	06 00	AD D0	02 00	08 20	00 00
OVER SCAN	Get		BE EF	03	06 00	91 70	02 00	09 22	00 00
	Increment		BE EF	03	06 00	F7 70	04 00	09 22	00 00
	Decrement		BE EF	03	06 00	26 71	05 00	09 22	00 00
OVER SCAN Reset	Execute		BE EF	03	06 00	EC D9	06 00	27 70	00 00
V POSITION	Get		BE EF	03	06 00	0D 83	02 00	00 21	00 00
	Increment		BE EF	03	06 00	6B 83	04 00	00 21	00 00
	Decrement		BE EF	03	06 00	BA 82	05 00	00 21	00 00
V POSITION Reset	Execute		BE EF	03	06 00	E0 D2	06 00	02 70	00 00
H POSITION	Get		BE EF	03	06 00	F1 82	02 00	01 21	00 00
	Increment		BE EF	03	06 00	97 82	04 00	01 21	00 00
	Decrement		BE EF	03	06 00	46 83	05 00	01 21	00 00
H POSITION Reset	Execute		BE EF	03	06 00	1C D3	06 00	03 70	00 00
H PHASE	Get		BE EF	03	06 00	49 83	02 00	03 21	00 00
	Increment		BE EF	03	06 00	2F 83	04 00	03 21	00 00
	Decrement		BE EF	03	06 00	FE 82	05 00	03 21	00 00
H SIZE	Get		BE EF	03	06 00	B5 82	02 00	02 21	00 00
	Increment		BE EF	03	06 00	D3 82	04 00	02 21	00 00
	Decrement		BE EF	03	06 00	02 83	05 00	02 21	00 00
H SIZE Reset	Execute		BE EF	03	06 00	63 D2	06 00	04 70	00 00
AUTO ADJUST	Execute		BE EF	03	06 00	91 D0	06 00	0A 20	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
COLOR SPACE	Set	AUTO	BE EF	03	06 00	0E 72	01 00	04 22	00 00
		RGB	BE EF	03	06 00	9E 73	01 00	04 22	01 00
		SMPTE240	BE EF	03	06 00	6E 73	01 00	04 22	02 00
		REC709	BE EF	03	06 00	FE 72	01 00	04 22	03 00
		REC601	BE EF	03	06 00	CE 70	01 00	04 22	04 00
	Get		BE EF	03	06 00	3D 72	02 00	04 22	00 00
COMPONENT	Set	COMPONENT	BE EF	03	06 00	4A D7	01 00	17 20	00 00
		SCART RGB	BE EF	03	06 00	DA D6	01 00	17 20	01 00
	Get		BE EF	03	06 00	79 D7	02 00	17 20	00 00
VIDEO FORMAT	Set	AUTO	BE EF	03	06 00	9E 75	01 00	00 22	0A 00
		NTSC	BE EF	03	06 00	FE 71	01 00	00 22	04 00
		PAL	BE EF	03	06 00	6E 70	01 00	00 22	05 00
		SECAM	BE EF	03	06 00	6E 75	01 00	00 22	09 00
		NTSC4.43	BE EF	03	06 00	5E 72	01 00	00 22	02 00
		M-PAL	BE EF	03	06 00	FE 74	01 00	00 22	08 00
		N-PAL	BE EF	03	06 00	0E 71	01 00	00 22	07 00
	Get		BE EF	03	06 00	0D 73	02 00	00 22	00 00
DVI	Set	DVD	BE EF	03	06 00	3E D9	01 00	20 20	00 00
		COMPUTER	BE EF	03	06 00	AE D8	01 00	20 20	01 00
	Get		BE EF	03	06 00	0D D9	02 00	20 20	00 00
S-ASPECT	Set	TURN OFF	BE EF	03	06 00	1A 71	01 00	0B 22	00 00
		TURN ON	BE EF	03	06 00	8A 70	01 00	0B 22	01 00
	Get		BE EF	03	06 00	29 71	02 00	0B 22	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
KEYSTONE V	Get		BE EF	03	06 00	B9 D3	02 00	07 20	00 00
	Increment		BE EF	03	06 00	DF D3	04 00	07 20	00 00
	Decrement		BE EF	03	06 00	0E D2	05 00	07 20	00 00
KEYSTONE V Reset	Execute		BE EF	03	06 00	08 D0	06 00	0C 70	00 00
OPTICAL BLACK	Set	OFF	BE EF	03	06 00	7F 23	01 00	03 33	00 00
		NATURAL	BE EF	03	06 00	EF 22	01 00	03 33	01 00
		DEEP	BE EF	03	06 00	1F 22	01 00	03 33	02 00
	Get		BE EF	03	06 00	4C 23	02 00	03 33	00 00
			(Example return) 00 00 (Off)		01 00 (Natural)		02 00 (Deep)		03 00 (Custom)
WHISPER	Set	NORMAL	BE EF	03	06 00	3B 23	01 00	00 33	00 00
		WHISPER	BE EF	03	06 00	AB 22	01 00	00 33	01 00
	Get		BE EF	03	06 00	08 23	02 00	00 33	00 00
IRIS	Get		BE EF	03	06 00	B0 22	02 00	02 33	00 00
	Increment		BE EF	03	06 00	D6 22	04 00	02 33	00 00
	Decrement		BE EF	03	06 00	07 23	05 00	02 33	00 00
MIRROR	Set	NORMAL	BE EF	03	06 00	C7 D2	01 00	01 30	00 00
		H:INVERT	BE EF	03	06 00	57 D3	01 00	01 30	01 00
		V:INVERT	BE EF	03	06 00	A7 D3	01 00	01 30	02 00
		H&V:INVERT	BE EF	03	06 00	37 D2	01 00	01 30	03 00
	Get		BE EF	03	06 00	F4 D2	02 00	01 30	00 00
LANGUAGE	Set	ENGLISH	BE EF	03	06 00	F7 D3	01 00	05 30	00 00
		FRANÇAIS	BE EF	03	06 00	67 D2	01 00	05 30	01 00
		DEUTSCH	BE EF	03	06 00	97 D2	01 00	05 30	02 00
		ESPAÑOL	BE EF	03	06 00	07 D3	01 00	05 30	03 00
		ITALIANO	BE EF	03	06 00	37 D1	01 00	05 30	04 00
		NORSK	BE EF	03	06 00	A7 D0	01 00	05 30	05 00
		NEDERLANDS	BE EF	03	06 00	57 D0	01 00	05 30	06 00
		PORTUGUÊS	BE EF	03	06 00	C7 D1	01 00	05 30	07 00
		日本語	BE EF	03	06 00	37 D4	01 00	05 30	08 00
		中文	BE EF	03	06 00	A7 D5	01 00	05 30	09 00
		한글	BE EF	03	06 00	57 D5	01 00	05 30	0A 00
		SVENSKA	BE EF	03	06 00	C7 D4	01 00	05 30	0B 00
		РУССКИЙ	BE EF	03	06 00	F7 D6	01 00	05 30	0C 00
		SUOMI	BE EF	03	06 00	67 D7	01 00	05 30	0D 00
		POLSKI	BE EF	03	06 00	97 D7	01 00	05 30	0E 00
	Get		BE EF	03	06 00	C4 D3	02 00	05 30	00 00
MENU POSITION H	Get		BE EF	03	06 00	04 D7	02 00	15 30	00 00
	Increment		BE EF	03	06 00	62 D7	04 00	15 30	00 00
	Decrement		BE EF	03	06 00	B3 D6	05 00	15 30	00 00
MENU POSITION H Reset	Execute		BE EF	03	06 00	DC C6	06 00	43 70	00 00
MENU POSITION V	Get		BE EF	03	06 00	40 D7	02 00	16 30	00 00
	Increment		BE EF	03	06 00	26 D7	04 00	16 30	00 00
	Decrement		BE EF	03	06 00	F7 D6	05 00	16 30	00 00
MENU POSITION V Reset	Execute		BE EF	03	06 00	A8 C7	06 00	44 70	00 00

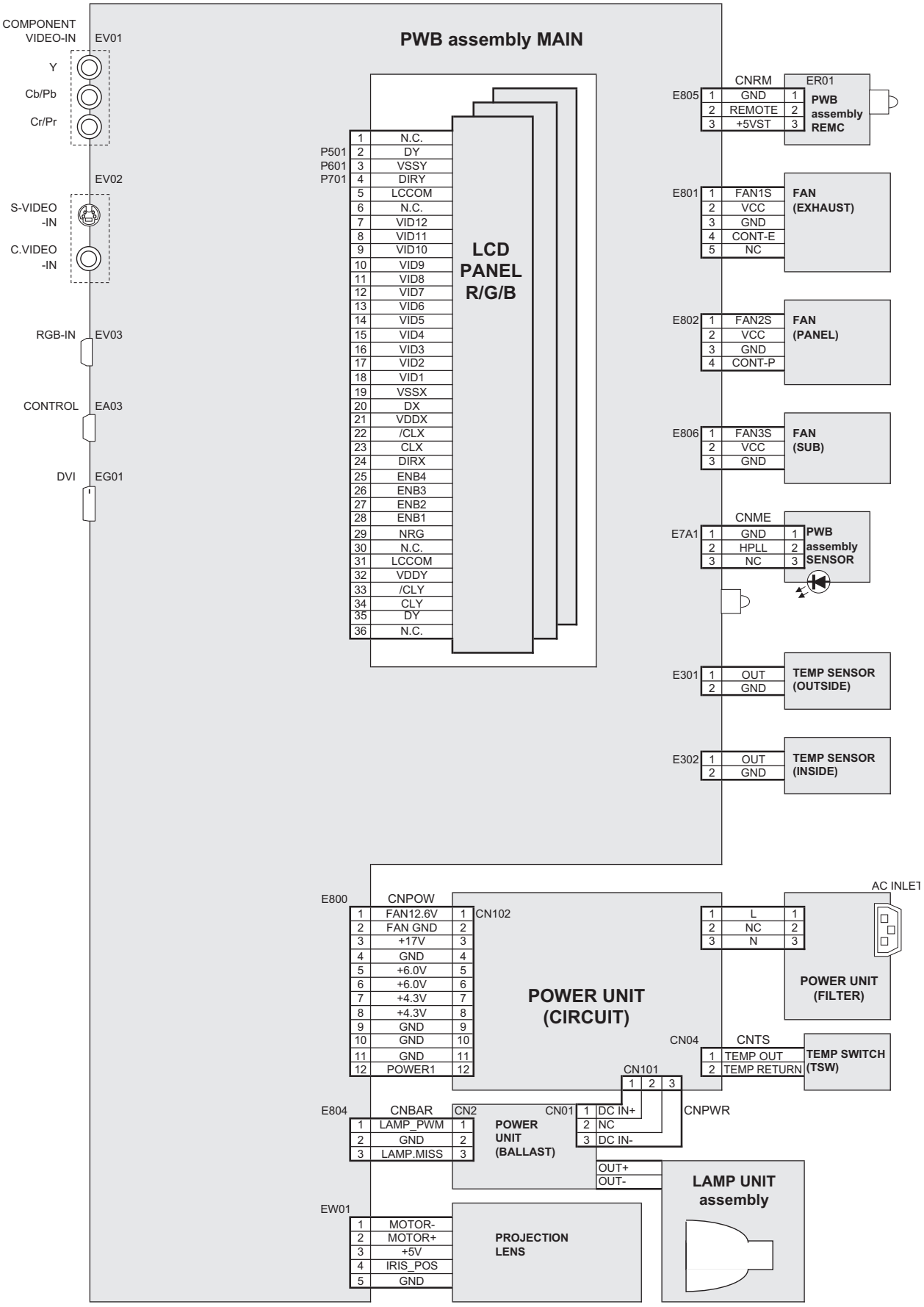
Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
OSD BRIGHT	Get		BE EF	03	06 00	A8 D5	02 00	18 30	00 00
	Increment		BE EF	03	06 00	CE D5	04 00	18 30	00 00
	Decrement		BE EF	03	06 00	1F D4	05 00	18 30	00 00
START UP	Set	My Screen	BE EF	03	06 00	CB CB	01 00	04 30	20 00
		ORIGINAL	BE EF	03	06 00	0B D2	01 00	04 30	00 00
		TURN OFF	BE EF	03	06 00	9B D3	01 00	04 30	01 00
	Get		BE EF	03	06 00	38 D2	02 00	04 30	00 00
My Screen LOCK	Set	TURN OFF	BE EF	03	06 00	3B EF	01 00	C0 30	00 00
		TURN ON	BE EF	03	06 00	AB EE	01 00	C0 30	01 00
	Get		BE EF	03	06 00	08 EF	02 00	C0 30	00 00
Message	Set	TURN OFF	BE EF	03	06 00	8F D6	01 00	17 30	00 00
		TURN ON	BE EF	03	06 00	1F D7	01 00	17 30	01 00
	Get		BE EF	03	06 00	BC D6	02 00	17 30	00 00
AUTO POWER OFF	Get		BE EF	03	06 00	08 86	02 00	10 31	00 00
	Increment		BE EF	03	06 00	6E 86	04 00	10 31	00 00
	Decrement		BE EF	03	06 00	BF 87	05 00	10 31	00 00
LAMP TIME	Get		BE EF	03	06 00	C2 FF	02 00	90 10	00 00
LAMP TIME Reset	Execute		BE EF	03	06 00	58 DC	06 00	30 70	00 00
FILTER TIME	Get		BE EF	03	06 00	C2 F0	02 00	A0 10	00 00
FILER TIME Reset	Execute		BE EF	03	06 00	98 C6	06 00	40 70	00 00

11. Block diagram



Block diagram (C11H)

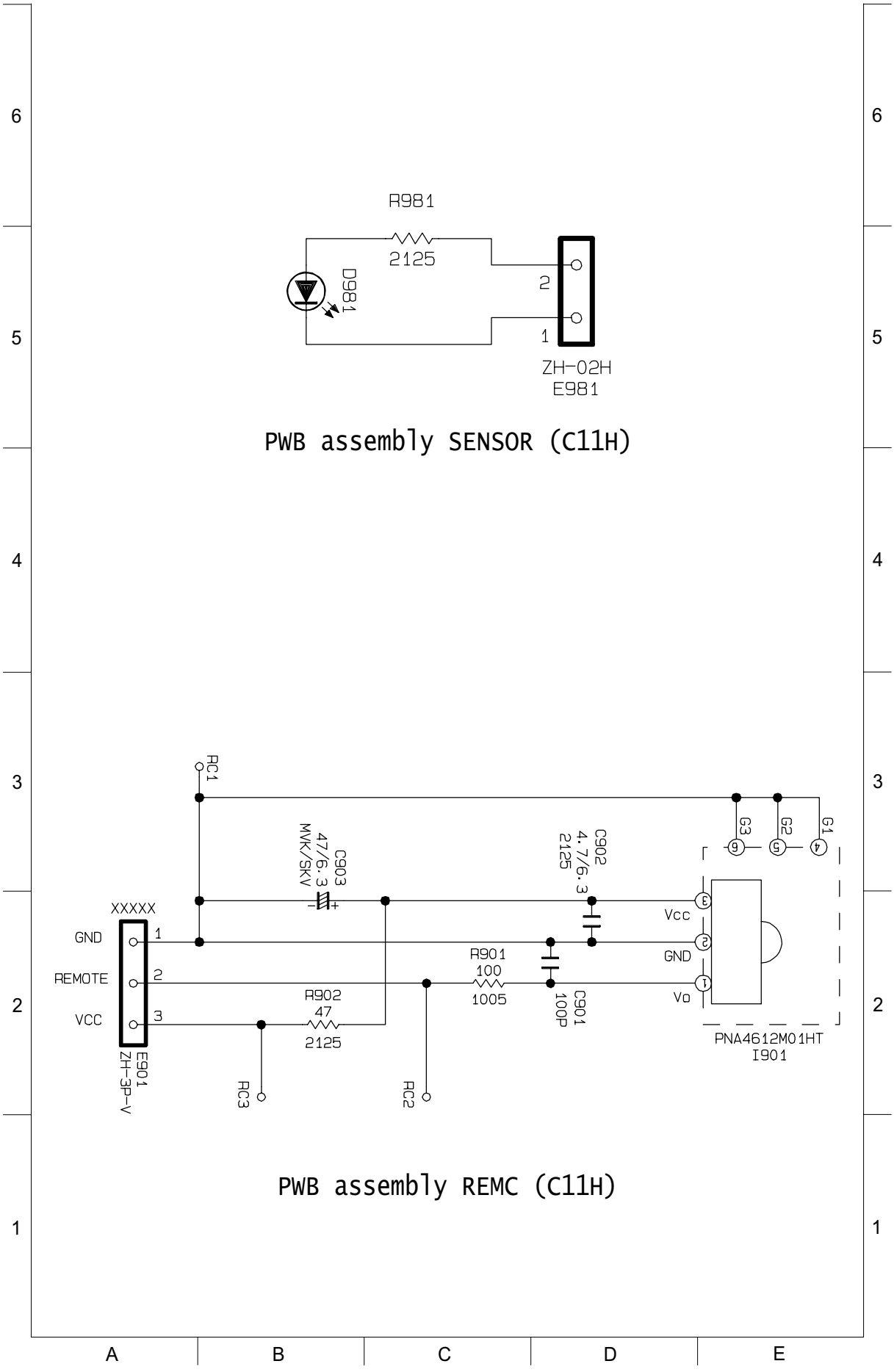
12. Connector connection diagram

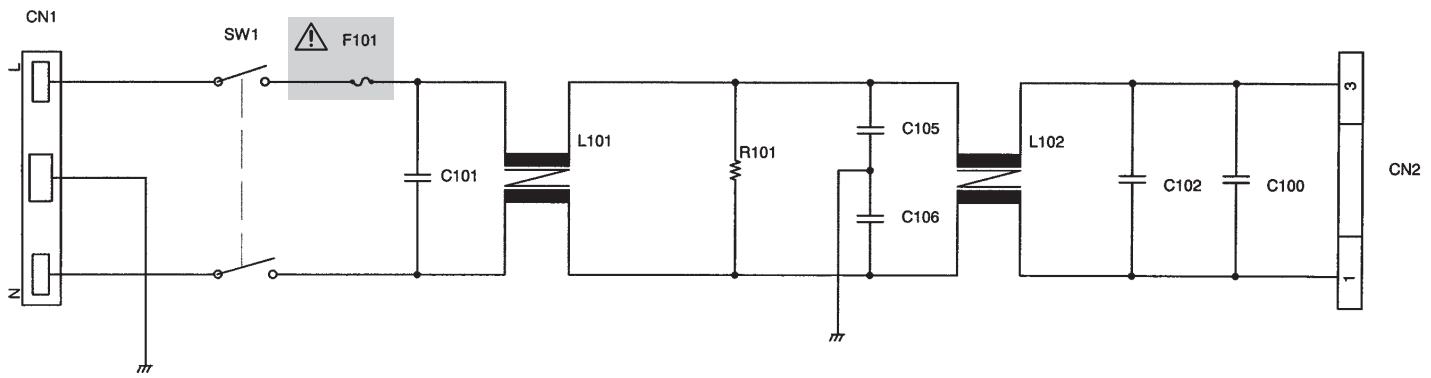


Connector connection diagram (C11H)

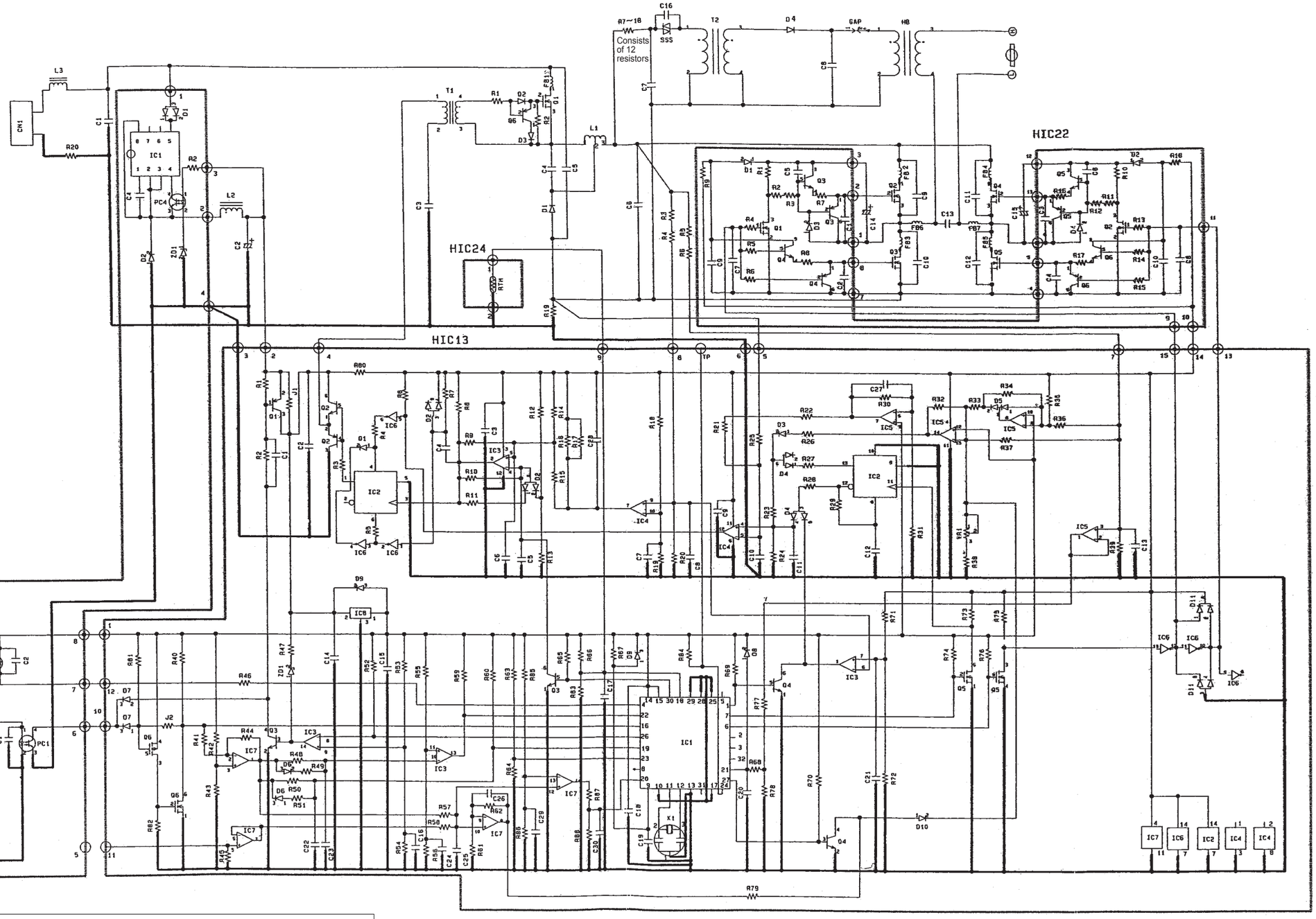
13. Basic circuit diagram

Parts with hatching are not mounted.



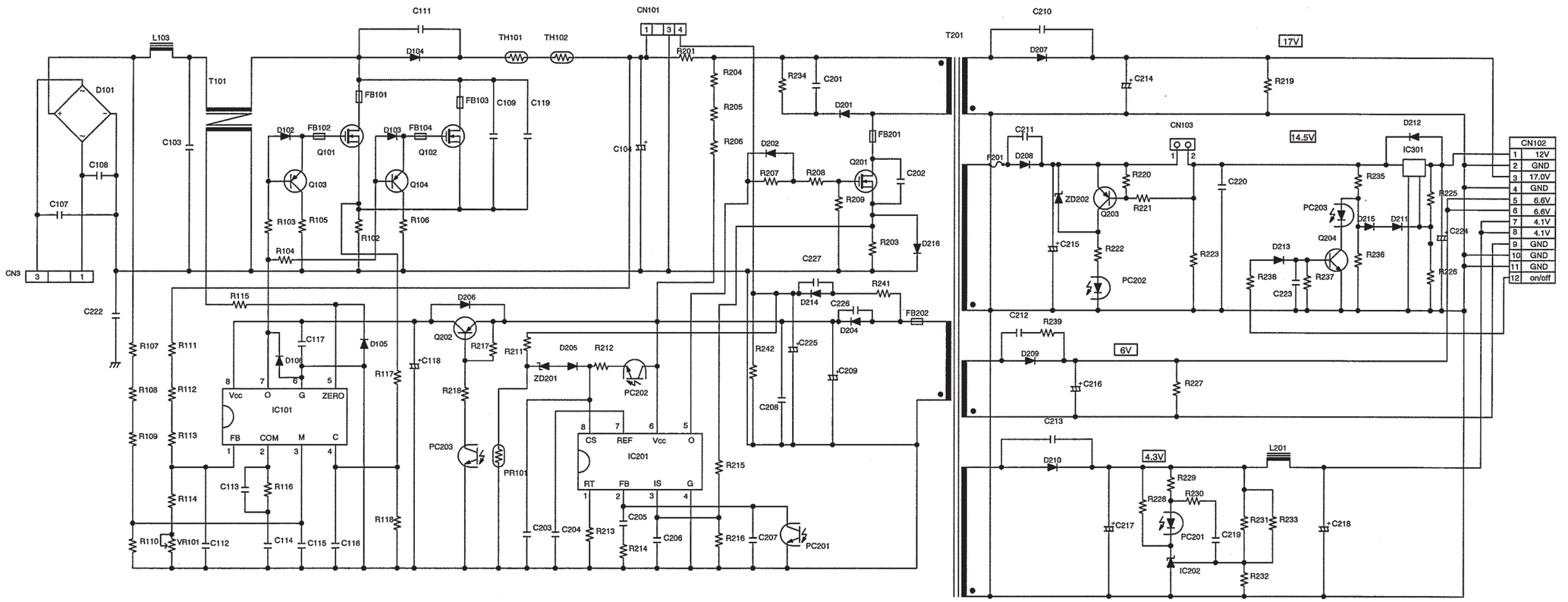


FILTER UNIT (C11H)



⚠ Warning
For handling of the circuit diagram, refer to the warning on the cover.

POWER UNIT (BALLAST) (C11H)

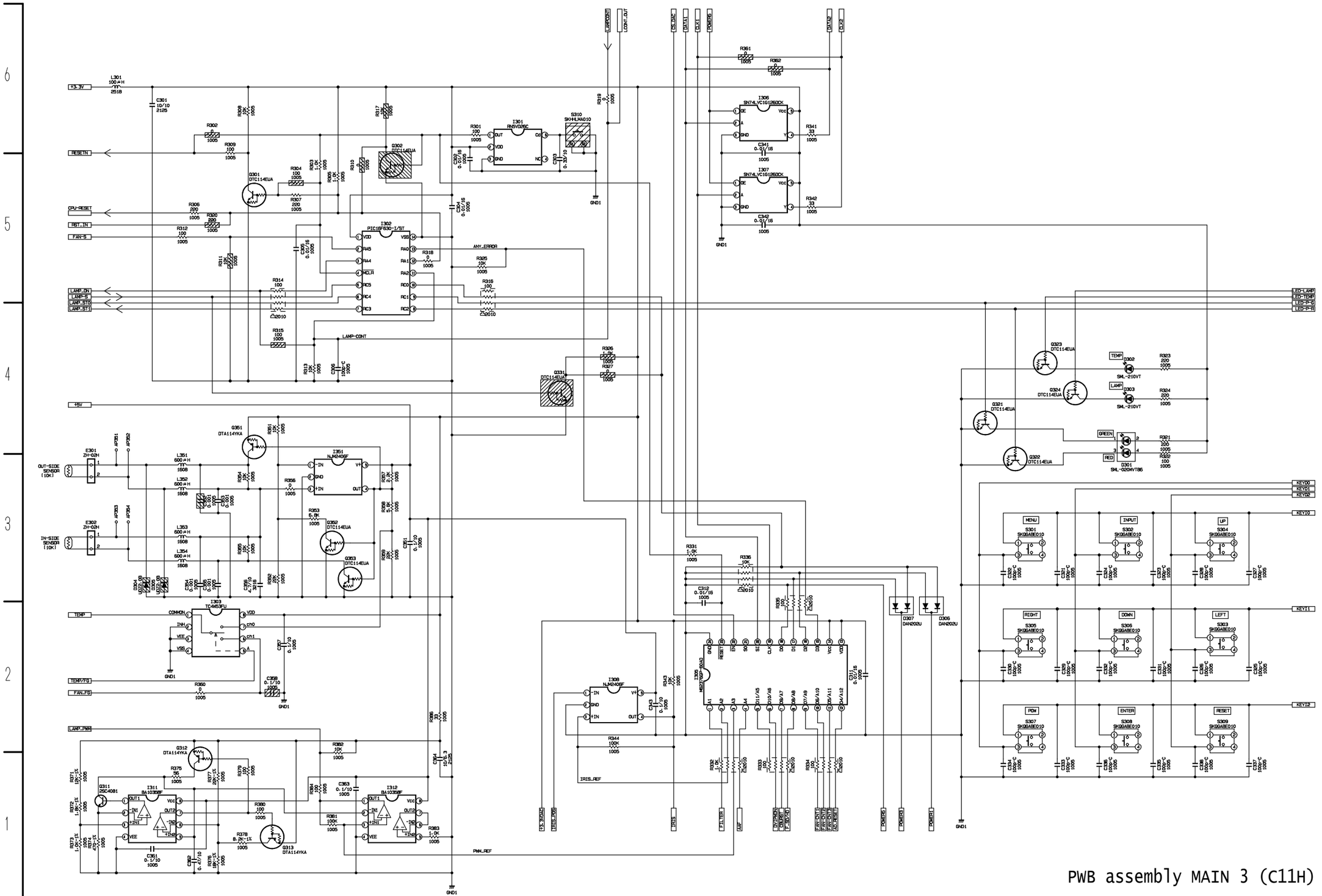


⚠ Warning
For handling of the circuit diagram, refer to the warning on the cover.

POWER UNIT (CIRCUIT) (C11H)

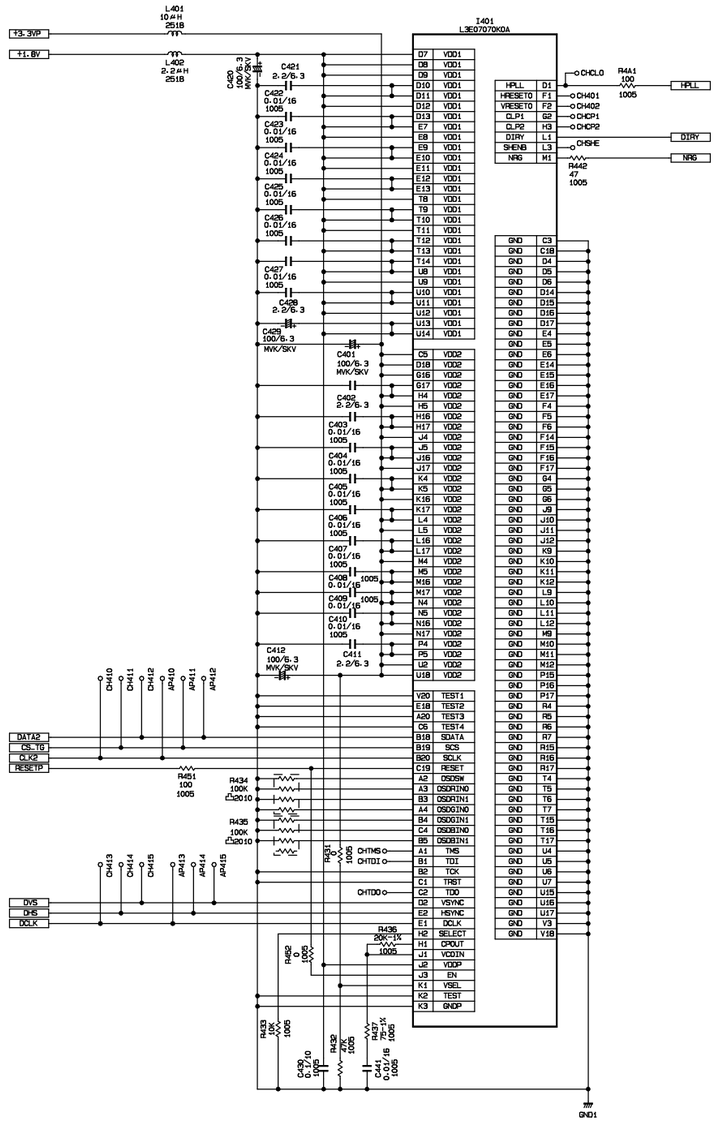
PWB assembly MAIN 1 (C11H)

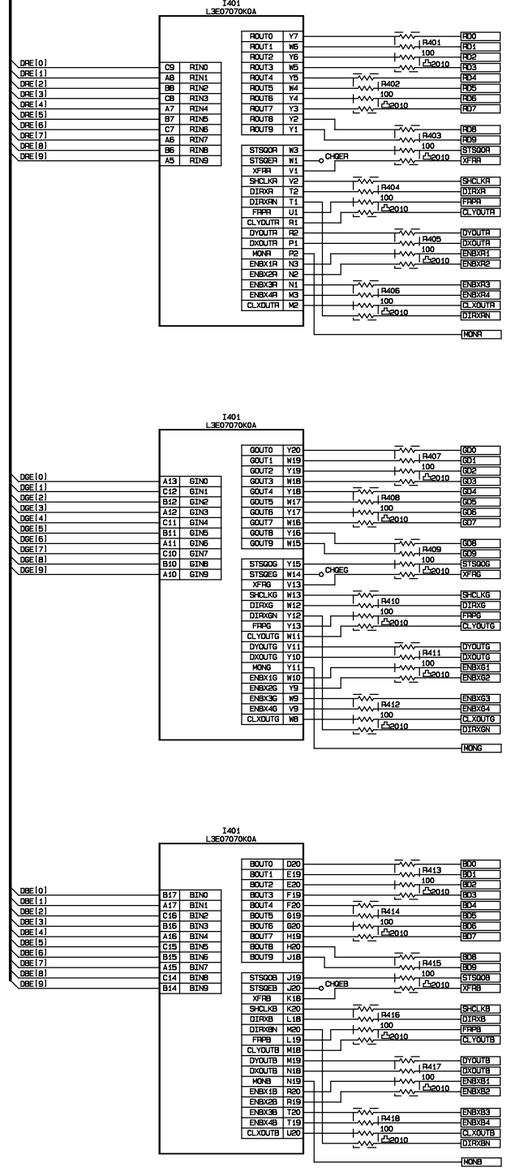
PWB assembly MAIN 2 (C11H)



PWB assembly MAIN 3 (C11H)

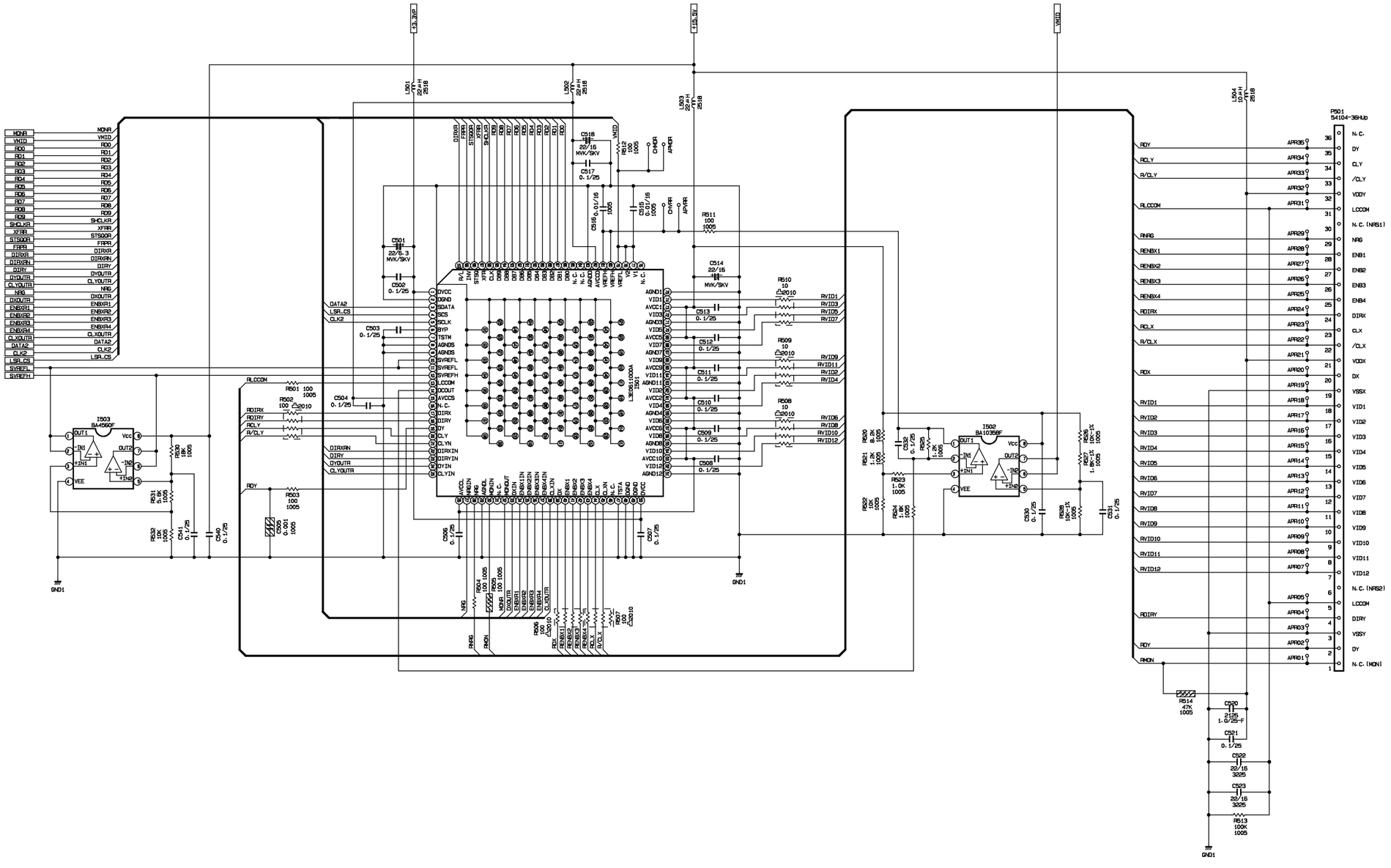
PWB assembly MAIN 4 (C11H)





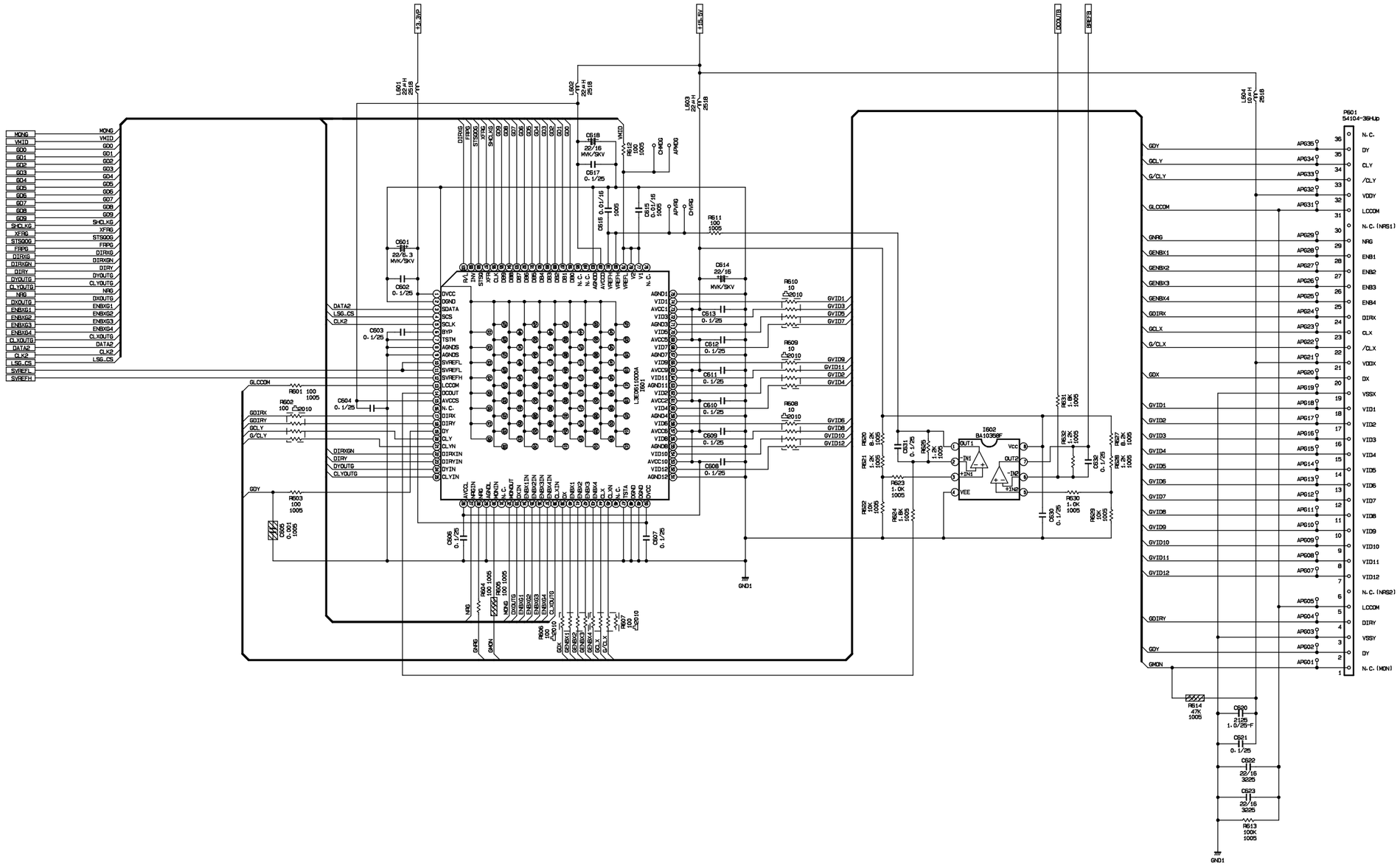
PWB assembly MAIN 5 (C11H)

C11H R Panel Part



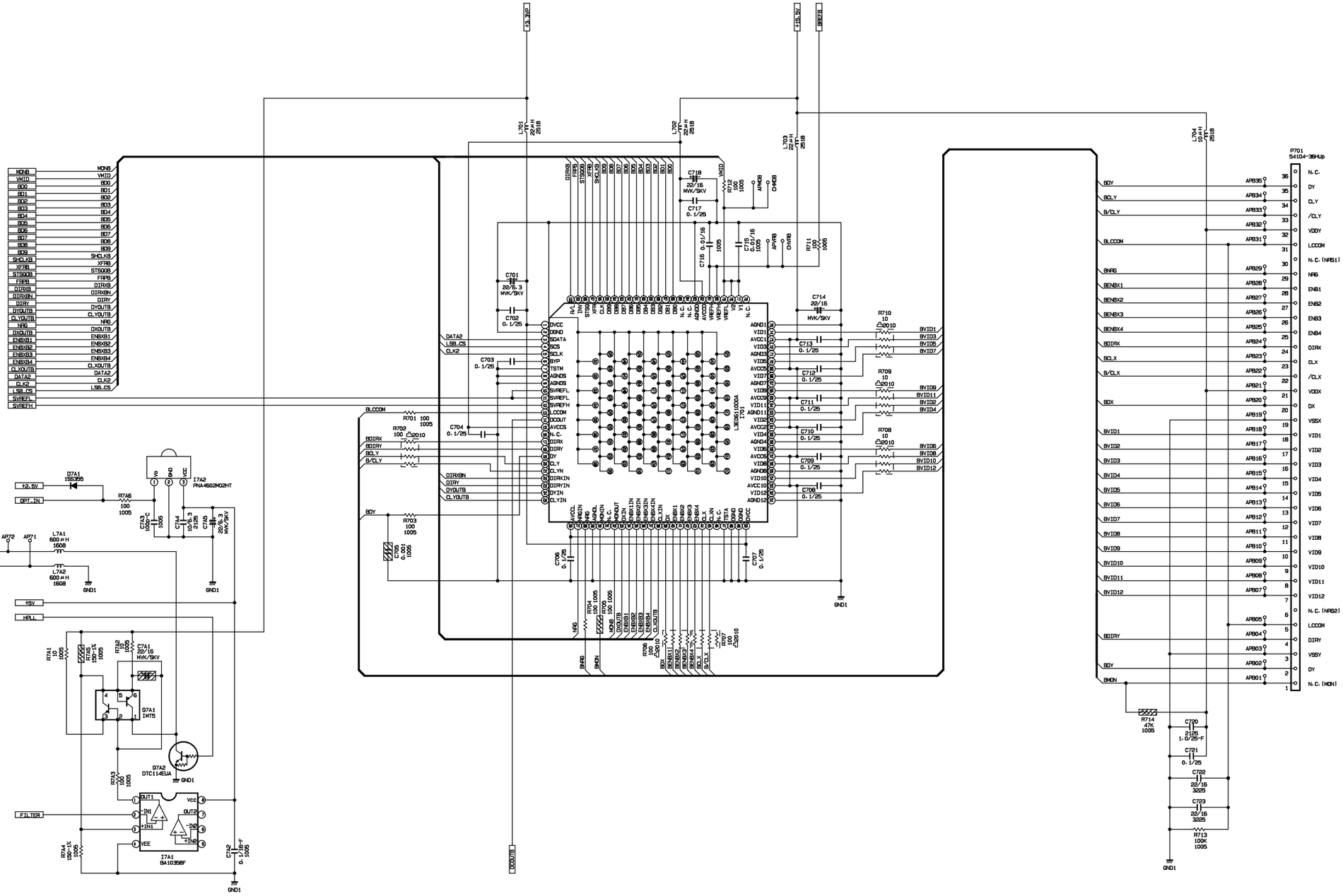
PWB assembly MAIN 6 (C11H)

C11H G Panel Part



PWB assembly MAIN 7 (C11H)

C11H B Panel Part



PWB assembly MAIN 8 (C11H)

1	2	SIGNAL
L	L	750p
L	H	1125I
H	L	525P
H	H	525I

1	2	ASPECT
L	L	16 : 9
L	H	LETTER
H	H	4 : 3
H	L	N. C.

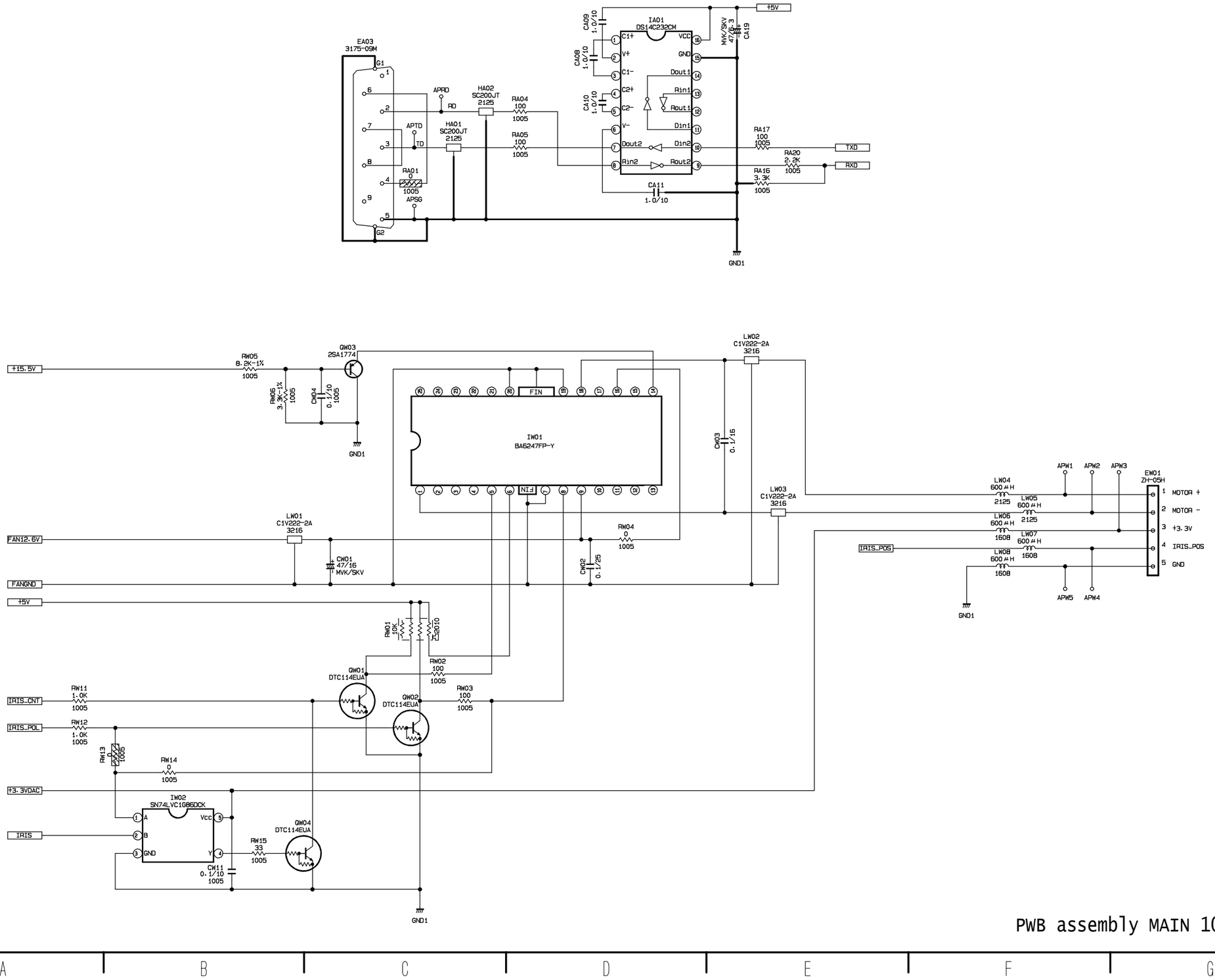
1	2	ASPECT
L	L	16 : 9
L	H	LETTER
H	H	4 : 3

L	Component
H	Scart

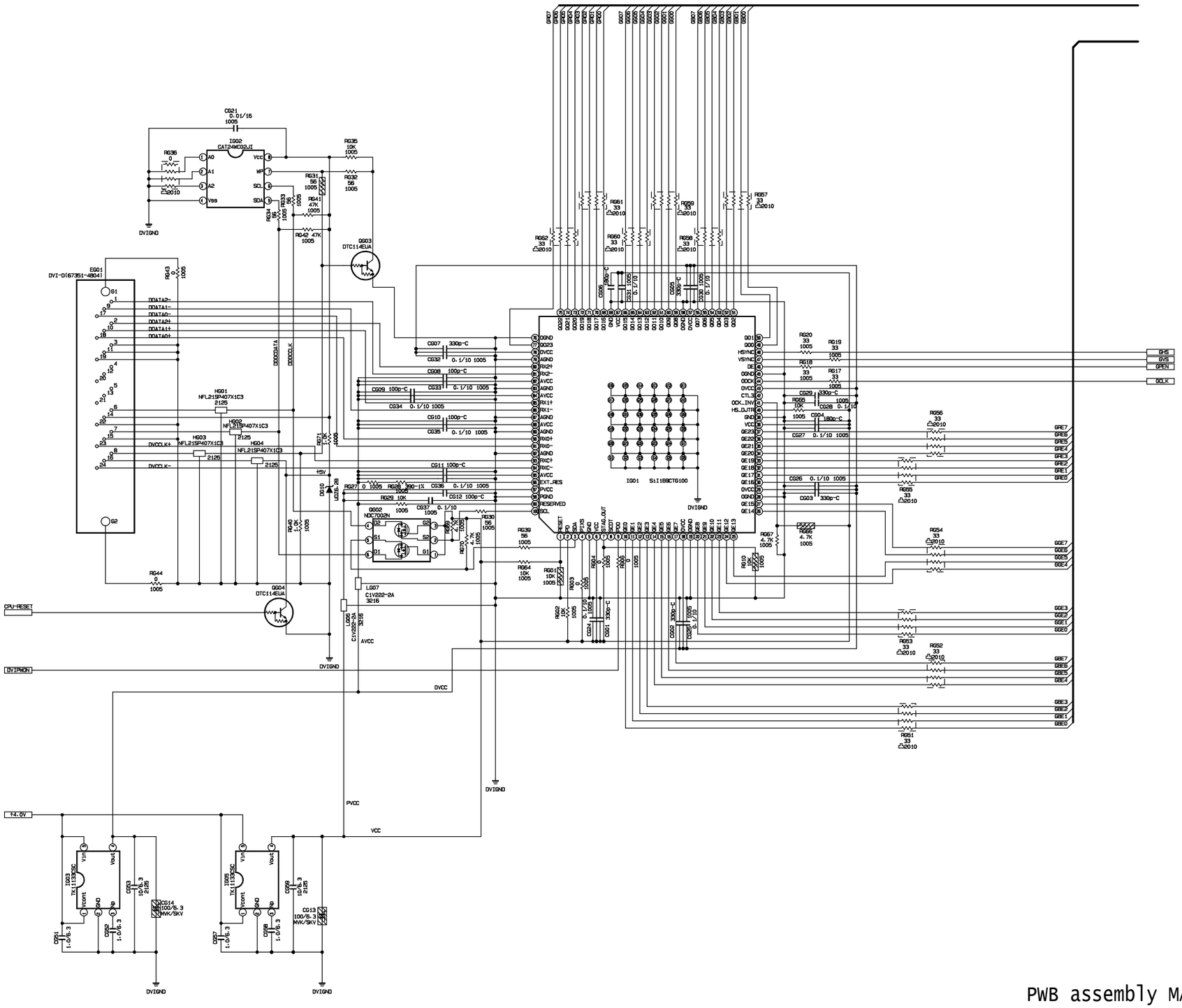
L	Component
H	CVBS/S

L	TEB200
H	AD7400

PWB assembly MAIN 9 (C11H)



PWB assembly MAIN 10 (C11H)



PWB assembly MAIN 11 (C11H)

Basic circuit diagram list

HITACHI
Inspire the Next

Hitachi Europe Ltd.
Whitebrook Park, Lower Cookham Road,
Maidenhead, Berkshire, SL6 8YA UK
Tel: +44 -01628-643000
Fax: +44 -01628-643400
▸http://www.hitachidigitalmedia.com

Hitachi Europe GmbH, (Munich Office)
Dornacher Strasser3,
D-85622 Feldkirchen bei München GERMANY
Tel: +49 -89-991-80-0
Fax: +49 -89-991-80-224

Hitachi Europe SRL
Via T. Gulli n.39, 20147 MILAN ITALY
Tel: +39 -02-487861
Fax: +39 -02-48786381

Hitachi Europe S.A.S (Lyon Office)
B.P. 45
69671 Bron Cedex FRANCE
Tel: +33 -04-72-14-29-70
Fax: +33 -04-72-14-29-99

Hitachi Europe AB
Digital Media Group
Egebækgård, Egebækvej 98
DK-2850 Nærum DENMARK
Tel: +45 -43-43-60-50
Fax: +45 -43-43-60-51

Hitachi Europe S.A.
364 Kifissias Ave. & 1, Delfon Str.
152 33 Chalandri, Athens GREECE
Tel: +30 -1-6837200
Fax: +30 -1-6835694

Hitachi Europe S.A.
Gran Via Carlos III, 86, planta 5
08028 Barcelona SPAIN
Tel: +34 -93-409-2550
Fax: +34 -93-491-3513

Hitachi Europe AB.
Digital Media Group
Box 77
S-164 94 Kista SWEDEN
Tel: +46 -8-562-711-00
Fax: +46 -8-562-711-11

Hitachi Europe AB (Norway branch, NUF)
Digital Media Group
Strandveien 18
N-1366 Lysaker NORWAY
Tel: +47 -6751-9030
Fax: +47 -6751-9032

Hitachi Europe AB
Digital Media Group
Neopoli/Niemenkatu 73
15140 Lahti FINLAND
Tel: +358 -3-8114-600
Fax: +358 -3-8114-602

Hitachi Europe AB
Digital Media Group
Bergensesteenweg 421,
1600 Saint-Peters-Leeuw BELGIUM
Tel: +32 -236-39901
Fax: +32-236-39900

Hitachi Europe Ltd. (Praha Office)
Digital Media Group
Na Sychrove 975/8
101 27 Praha 10- Bohdalec CZECH REPUBLIC
Tel: +420 -267-212-383
Fax: +420 -267-212-385

Hitachi Europe, Digital Media Group
Gewerbepark, Hintermattlistr. 3,
5506 Mägenwil SWITZERLAND
Tel: +41-62-889-8011
Fax: +41-62-896-4771

Hitachi Europe Ltd. (Moscow office)
Digital Media Group
Millenium House, 12 Trubnaya Street
Moscow 103045 RUSSIA
Tel: +7 -95-787-4020
Fax: +7 -95-787-4021